

Tourism and Biodiversity

impacts and perspectives on interventions
in the Netherlands and Costa Rica

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This study intends to explore the relations between tourism and biodiversity. It contributes to the discussion on biodiversity and tourism in several ways. Firstly, some of the theoretical discussions regarding the relation between tourism and biodiversity are reconstructed, as well as the possibilities to measure the impact of tourism. Secondly, the study reflects on the possibilities and legitimacy of different types of interventions and gives an impression of the interventions that are currently being undertaken. Finally, current practices are evaluated and perspectives for future intervention are discussed.

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Preface

In this study, the relations between tourism and biodiversity are explored, and current and possible interventions are evaluated. This study has been carried out for Ecooperation/Fundecooperación within the framework of the Bilateral Sustainable Development Agreement (BSDA) between the Netherlands and Costa Rica.

In March 1994 the Netherlands signed a Bilateral Sustainable Development Agreement (BSDA) with Costa Rica, Benin and Bhutan. In each country, an autonomous organisation has been created for the implementation of these treaties. In the Netherlands, this task is carried out by Ecooperation; in Costa Rica by Fundecooperación.

These agreements are a follow up of the United Nations Conference on Environment and Development that was held in 1992 in Rio de Janeiro. In line with the conclusions of this conference, the BSDA's are based on three principles for sustainable development. These are:

- reciprocity
- equality
- participation

Important themes within the BSDA's are energy and climate change, agriculture, economic relationships (trade) and biodiversity. In addition to these general themes, each of the three bilateral agreements has its own core areas of attention. In the BSDA between Costa Rica and the Netherlands, tourism is a specific area of attention. In co-operation with the Costa Rican Technical Committee, a programme for tourism has been compiled through various workshops and consultations.

This study was carried out within the framework of the BSDA tourism programme and is a joint Dutch-Costa Rican exercise. BUITEN Consultancy and Wageningen University have carried out the Dutch part. Hernan Quesada Rivel has provided information on the Costa Rican situation.

The study intends to explore the complex relations between tourism and biodiversity. We want to contribute to the discussion on biodiversity and tourism in several ways. Firstly, we reconstruct some of the theoretical discussions regarding the relation between tourism and biodiversity and the possibilities to measure the impact of tourism. Emphasis is put on the so-called 'dose-effect chains'. These chains focus on the particular effects on biodiversity of a certain 'dose' of recreation. Secondly, we reflect on the possibilities and legitimacy of different types of interventions and give an

impression of the interventions that are currently being undertaken. These include interventions by the tourism sector, governments and NGO's. Finally, we evaluate current practice and propose some leads for future intervention.

Costa Rica and the Netherlands are taken as a point of departure in this study. Emphasis is placed on tourism from the Netherlands to Costa Rica, and its effect on biodiversity in Costa Rica.

Two workshops have been organised in the Netherlands, for consultation of experts on tourism-biodiversity relations (workshop 1) and experts involved in tourism-biodiversity related projects and interventions (workshop 2). In these workshops, experts from academia, the policy field, environmental organisations and the travel industry reflected on preliminary findings and conclusions. Results from these workshops have been integrated in the report. In Costa Rica, experts were consulted via interviews.

We would like to thank the following people and organisations for their contribution to this study:

- ❖ Ecooperation and Fundecooperación for providing the funding to carry out this project
- ❖ The participants of the workshop for their time and their willingness to share their expertise
- ❖ Henk Eggink and Heleen Tsoj of the Ministry of Agriculture, Nature and Fisheries for communicating on early results of the policy discussion on tourism and biodiversity
- ❖ Kees Musters of Department of Environmental Biology, Leiden University for his comments on a draft version of the report
- ❖ Our colleagues at the Centre for Recreation and Tourism Studies and BUITEN Consultancy for stimulating discussions and advice
- ❖ Stuart Cottrell of the WLRA International Centre of Excellence for his editorial work

Arnhem / Wageningen, October 1999

1 Introduction

In this chapter we introduce the notions of biodiversity and tourism. The main international policy document on biodiversity discerns three goals: conservation of biodiversity, sustainable use of biological resources and an equal sharing of the benefits that arise from the use of biological resources. In order to indicate the relevance of each of these goals in relation to tourism, three relations between tourism and biodiversity are distinguished. It is important to take into account that tourism has not only negative, but also positive impacts on biodiversity; and that biodiversity is an important resource for holiday experiences and for tourism revenues.

Costa Rica is particularly rich in biodiversity, both in terms of ecosystems and in terms of species. Its habitats range from dry pasture to humid tropical cloud forest and from mangrove swamps to dry seasonal forests. The total number of species is estimated around half a million (Ecooperation et.al. 1998).

Nature is Costa Rica's main tourist attraction. At least 60% of the visitors indicate that visiting a natural park was an important motive to visit the country. The creation of the image of a green country and the focus on eco-tourism has been very successful in attracting tourists. Visitor numbers have increased from about 65.000 in 1964 to over 800.000 in 1998. Of these, somewhat over 10.000 are Dutch (van der Duim and Elands, 1999). Tourism is very important for Costa Rica's balance of payments, not only in absolute sense but also in relation to the country's trade deficit and foreign debt¹. According to the UNEP (1996) the dollar value of biodiversity related eco-tourism in Costa Rica is \$ 1,250 per hectare, or about \$ 500 per acre per year. This means that nature is an important economic product. Tourism has definitely contributed to a growing awareness of the value of nature and to its conservation. However, at the same time the uncontrolled rise of tourist numbers and of the construction of hotels, golf courses and other tourist facilities can inflict major destructive impacts on Costa Rica's nature and environment.

These characteristics give tourism an ambivalent position in relation to biodiversity. As Mowforth and Munt (1998: 156-157) claim, tourism very much represents *"a double edged sword for the socio-environmental*

¹ In 1998, almost 15% of Costa Rica's foreign trade consisted of tourism receipts; in 1993 and 1994 this figure was over 25% (source: Departamento Monetario / Banco Central de Costa Rica).

movement, in that it is an activity which is both reviled and revered. It has become a focus of criticism, as a result of its impacts and a focus of promotion, as a means of achieving sustainable development".

In this report, we want to give an overview of the complex relations between tourism and biodiversity. We will also analyse how this complexity can be dealt with in terms of intervention, and we will evaluate current interventions. Finally, we will highlight some perspectives for the development of 'biodiversity-friendly' tourism.

1.1 Some policy backgrounds

Biodiversity as a concept is successful (Musters, 1999). It was first used in 1985, taken up by the National Forum on Biodiversity in Washington in 1988 and included in the Convention on Biological Diversity in 1992. Over 175 countries have now ratified this Convention.

In Costa Rica, conservation of biodiversity had previously been included as a policy issue in 1990, as one of the themes in the Conservation Strategy for Sustainable Development. The main objectives of this strategy are to conserve essential ecological processes and systems, preserve biodiversity, enhance sustainable use of species and ecosystems, improve the quality of life and stimulate rational management of non-renewable resources and of resources of interest to tourists.

By including tourism as an issue in relation to biodiversity, Costa Rica has been a forerunner. Internationally, tourism has for a long time played a marginal role in discussions on biodiversity (Bundesamt für Naturschutz, 1997). Recently, some important progress has been made in this respect, as sustainable tourism has been included as one of the themes for further implementation of Agenda 21. Furthermore, the Commission on Sustainable Development (CSD) has been assigned to develop an *"action-oriented international programme of work to be defined in cooperation with the Conference of the Parties to the Convention on Biological Diversity together with other relevant organizations, including the World Tourism Organization (WTO), the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Environment Programme"* (SBSTTA, 1999).

The Netherlands ratified the Convention on Biological Diversity in 1994. A Strategic Action Plan for Biodiversity describes the priorities for research and action. Policy for biodiversity is also rooted in the implementation of existing policies. The implementation of the BSDA's is another policy through which

biodiversity receives attention. A policy document on biodiversity ('Beleidsnota Biodiversiteit') is due to appear by the end of 1999. An interdepartmental project group is preparing this document. 'Tourism and biodiversity' is one of the themes that receives special attention within this project on biodiversity. A special group that consists of government officials as well as representatives of the tourism sector is exploring the possibilities for a more sustainable approach to tourism in relation to biodiversity. A preliminary action programme has been prepared². Sustainable tourism is also mentioned as a theme in other governmental memoranda³ and several societal organisations have deployed their own initiatives. In the 'Initiative Group Outgoing Tourism, Nature and Environment', the government and societal organisations jointly develop activities.

1.2 Biodiversity as a policy concept

The Convention on Biological Diversity is born out of the growing concern for the deterioration of nature. More specifically, the extinction and decline in numbers of some species, coupled to the advancement of others is regarded as undesirable. This concern has been translated into a statement that is aimed to conserve biodiversity. Arguments against a further loss of biodiversity are referring to both the intrinsic ('non-use') value of nature, and its use value. These values have been further specified in many different ways. The Dutch government, for example, discerns the following aspects:

- ❖ the intrinsic value of all that lives;
- ❖ the importance of biodiversity for the quality of life and well-being;
- ❖ its contribution to life-supporting systems, being the motor behind ecological processes; and
- ❖ its economic significance.

Other countries describe the values of biodiversity in a similar way (e.g. Bundesamt für Naturschutz, 1997).

In the Convention, biodiversity has been defined as: *the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.*

² Special thanks to Henk Eggink (LNV) for providing the relevant information

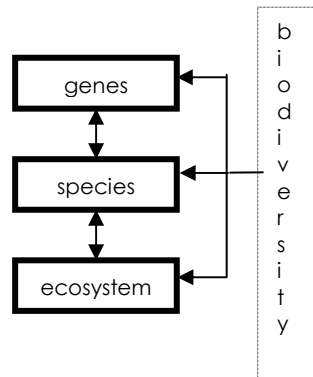
³ i.e.: Nota Milieu en Economie, PIN, Kiezen voor Recreatie, Beleidsagenda Recreatie en Milieu.

This definition is generally regarded as referring to three types of diversity, i.e.:

- ❖ diversity of ecosystems;
- ❖ for each ecosystem: diversity between species; and
- ❖ for each specie: genetic variation.

This definition of biodiversity refers to ecological and biological aspects. It is important to notice, however, that the objective of the Convention is not just to conserve biological diversity, but also to pursue the *sustainable use* of its components and the fair and *equitable sharing* of the benefits arising out of the utilisation of genetic resources.

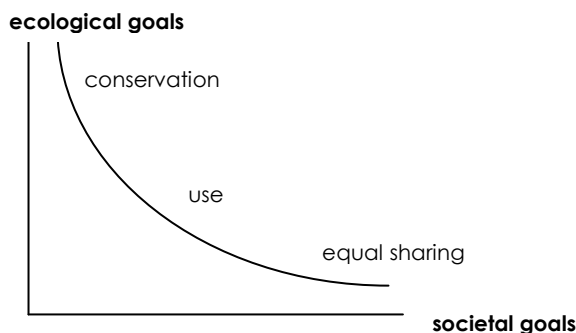
figure 1.1 biodiversity



With the addition of these latter two objectives, the policy goals for biodiversity are in line with those of sustainable development that were also a result of the Rio Convention. The Convention is not only concerned with ecological sustainability, but includes social and economic sustainability as well.

Because biodiversity is now approached from a broader point of view, it leaves more room to include societal interests (figure 1.2). Such a broader point of view is important for several reasons. From an international political

figure 1.2 goals of the CBD in perspective



(and ethical) point of view, inclusion of a notion of 'equitable sharing' is important in the light of North-South relations. The growing concern for the deterioration of nature is a concern mainly of the developed world. At the same time, a large part of this nature falls under the jurisdiction of Third World countries. These countries generally are

confronted with many social and economical problems that are felt to be more urgent than environmental and ecological ones. In order to create support for biodiversity policies among these countries, broadening the scope was therefore a necessity. Including societal goals is also important from the point of view of policy implementation at a lower level. If large

groups are not allowed any benefits from the protection of biodiversity, it will be hard to create continued support for far-reaching measures. Measures will be more 'sustainable' if they are widely accepted and supported, and especially if large parts of society are directly aware of the benefits they derive from the protection of biodiversity for themselves.

At the same time, this wider definition creates a tension both at the conceptual level and at the level of interventions. Measures that are beneficial from the point of view of the protection or sustainable use of biological resources not necessarily create a more equal sharing of the benefits. We will come back to this in chapter 2 and 3.

1.3 Tourism

Tourism has for a long time been considered a 'clean industry', without any negative effects on the environment worthy of mention (Bundesamt für Naturschutz, 1997). This image is now superseded, however. Most parties involved in tourism are aware of the possible negative impacts and see the need for action.

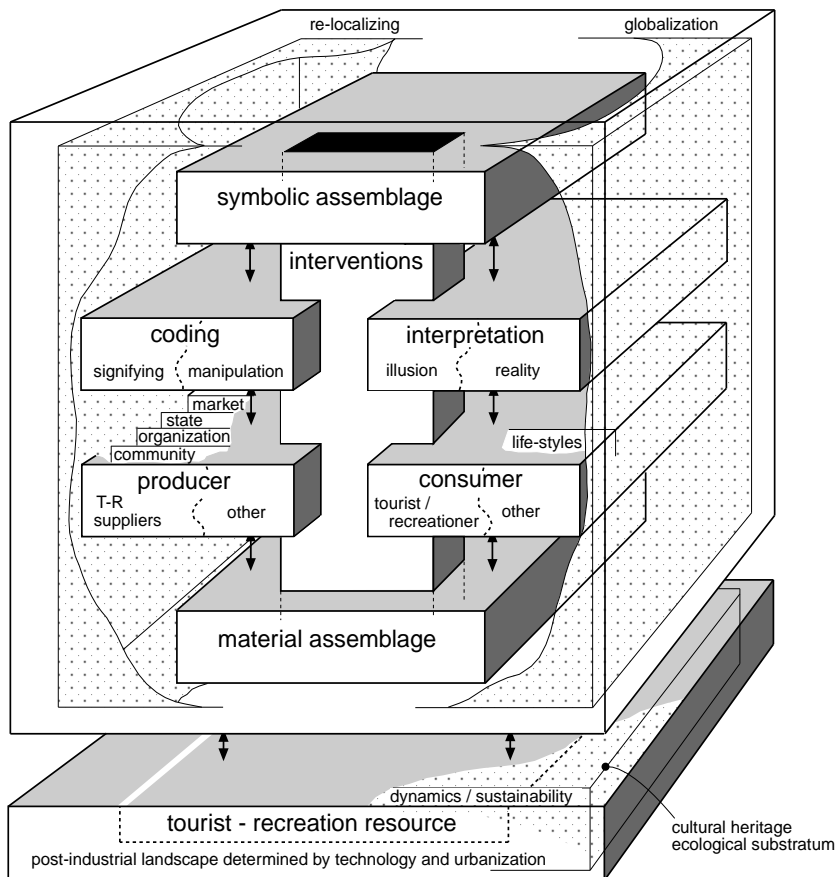
At the same time, tourism is able to contribute to a growing awareness about the value of nature. In that way, it can contribute to creating public support for the protection of biodiversity. Developing tourism can also be a way to make nature reserves economically viable and it can provide employment and income for the local population. In that sense, it can provide a viable alternative to other, more damaging activities (change of natural areas to agricultural land, mining and so on). In this respect, tourism differs from the effects of other types of 'production', which are usually not endowed with such positive 'side'-effects. Certainly with regard to Costa Rica, it can be stated that tourism has contributed a lot to the conservation of nature. If tourism would not have provided income and jobs, it is very likely that more nature areas would have been converted to agricultural land or used for wood production.

Tourism has a special kind of relationship with its environment, which makes it different from other 'industries'. The relations between tourism and the environment will be elaborated on, by means of the so-called 'TRAFO-model', which has been developed by the Centre for Tourism and Recreation Studies (Dietvorst et.al., 1995). In this model, tourism is depicted in terms of a continuous transformation of the environment by both producers (the tourist industry and the government) and consumers (tourists) – see next page.

Both consumers and producers take part in the transformation of the environment or 'resource' through material and symbolic assemblage. Material transformation by producers includes the creation of tourist and accommodation infrastructure (hotels, restaurants, walking paths) and basic infrastructure (roads, sewage systems). Material transformation by consumers relates to the use of this infrastructure, and to other activities undertaken by tourists. Material transformation, in short, represents the physical changes of the environment due to tourism.

The symbolic transformation by producers refers to the fact that what is being sold is not just a hotel bed and a visit to a nature park. It is rather to discover the "Magia de la Naturaleza" (ICT); have "a real adventure in the rain forest"; "rediscover your place in the natural world" (Horizontes); "imagine your own piece of paradise in Costa Rica" (Anacapa Pacifica); or: visit a place "where dreams come true with the enchanted wild touch of nature... kissing a lonely golden sand beach and dancing at the rhythm of the Caribbean Sea" (Almonds and Corrals lodge).

figure 1.3 TRAF0-model: the tourism product and its environment



source: Dietvorst et.al. (1995)

This symbolic transformation is referred to as 'coding' of the tourist resource. It is a way to emphasise the uniqueness of the destination. On the consumer side, symbolic aspects are essential as well. Visitors do not just buy the 'physical' product (reality), but also the illusion⁴. With regard to biodiversity, this means that tourists do not come only for the birds, plants or animals they actually see. Most visitors to Costa Rica will not see a quetzal, for example. The fact that they are out there somewhere, and that Costa Rica is one of the very few countries where they can be found, is an attraction in itself⁵.

It can be deduced from the model that the role of governments is twofold. Firstly, preconditions and limiting conditions for production and use are set. Secondly, the government can be regarded as a producer, as far as tourism products are created or maintained (cycling paths, picnic tables, parks and other recreational areas). The model also makes it clear that the various aspects of tourism are interrelated and in case of intervention, all of them should be taken into account.

The model offers three ways of looking at the relation between tourism and environment, and hence biodiversity:

1. from the point of view of the impacts on the resource, or, in other words: the effects of tourism (both production and consumption) on biodiversity;
2. from the point of view of the consumer: biodiversity as a resource for tourist experience; and
3. from the point of view of the producer: biodiversity as a means to gain income from tourism.

1.4 Tourism – biodiversity relations

These three ways of looking at the relation between tourism and biodiversity can be related to the three goals of biodiversity policy previously mentioned in paragraph 1.2:

- ❖ the conservation of biodiversity;
- ❖ a sustainable use of biodiversity; and
- ❖ an equitable sharing of the benefits.

⁴ This is, of course, not only true for tourism, but it is particularly obvious here.

⁵ This statement is not true for all tourism, however. Safaris are being offered including a 'lion-guarantee': if the group does not come across a lion, the company refunds the money. In such cases, the organising party usually finds creative ways to reduce this risk.

Tourism can contribute to each of these three goals. Below, we describe how each of the ways of looking at tourism – biodiversity relations is relevant in the light of the policy goals.

a. Effects of tourism on biodiversity

The effects of tourism on biodiversity are relevant in light of the goals of conservation and sustainable use. Tourism can contribute to the conservation of biodiversity through providing financial means (for example, for the creation or maintenance of parks) or by creating support for protective measures. When conservation is the most important goal, the intent will be to minimise tourist use of natural areas, since any type of use will cause some disturbance (WCMC, 1995). In fact, when looking at biodiversity outside natural parks as well, it is clear that most types of tourism damage biodiversity in one way or another. Tourism from the Netherlands to Costa Rica almost by definition involves air travel, for example. This - indirectly - affects biodiversity through its effects on environmental quality⁶.

Sustainable use is a somewhat more flexible goal, as it allows the use of natural areas to some extent. In both cases, it is important to have information on the impacts of different types of tourist behaviour. We will come back to this in chapter 2.

b. Biodiversity and tourist experience

The second type of interaction between tourism and biodiversity lies in the experiences that 'biodiversity' can provide to tourists. For most tourists to Costa Rica, this is related to visiting one of the natural parks. Different types of tourists will, however, have different motives for visiting these parks and their experiences will vary as well (van der Duim and Elands, 1999). Some visitors will be experts, who are scientifically interested in ecological aspects of the parks. For others, the pleasure lies in the scenery and beauty of nature. As the TRAF0-model indicates, non-material, symbolic aspects are often essential ingredients of tourism products. In such cases, it is not just biodiversity itself that is a motive for visiting, but also the perceptions and meanings that have been attached to biodiversity (or elements thereof) by the visitors.

⁶ In some cases changes brought about might be evaluated as having a positive rather than a negative effect on the conservation of biodiversity (e.g. the continued intervention needed for the conservation of man-made landscapes). See chapter 2 for a more indept discussion of the notion of biodiversity.

This relationship between tourism and biodiversity can be connected to the policy goals in two ways. First, in terms of sustainable use, it can be regarded as *a means to steer tourist behaviour*. If it is known what type of experience tourists are after, alternatives might be offered that are equally satisfactory to them, but less damaging to biodiversity.

Secondly, a connection can be made with the goal of *equitable sharing*. Though this goal is usually explained as an equal distribution of economic benefits, it can also be looked at from the point of view of tourist experience. This means that there should be room for various kinds of experiences. When using the example of nature parks again, this means that parks should not be directed towards only one type of tourist. It should be acknowledged that different people search for different experiences in nature parks and that these, ideally, should all be offered there own place⁷.

c. Biodiversity and producers

Biodiversity can be regarded as a part of the tourist product that attracts visitors and provides income to tourist businesses. The attitude of producers towards the protection of biodiversity differs widely. In some cases, such as with private nature reserves, protection is one of the main goals. In other cases producers are much less careful and their practices are damaging to biodiversity.

Activities of small-scale, local businesses tend to be depicted as less harmful and more in concordance with nature, compared to their large-scale, internationally operating counterparts. However, both types can have detrimental effects on biodiversity, though causes and possible solutions usually differ. Both types can be run by careless entrepreneurs, focused on short-term profits. In the case of a more resentful management, small-scale businesses will be more frequently confronted with a lack of knowledge or information, or a lack of alternative operational possibilities. On the one hand, large-scale businesses have more access to resources and have tools for the implementation of environmental management. They are often highly sensitive to their image among tourists. On the other hand, they can also usually exert a large influence on governments because they tend to be regarded as important boosts to the national economy and as status symbols. They often succeed in by-passing planning legislation and, for that matter, biodiversity regulations.

⁷ In the Netherlands, the construction of 'new nature' is being disputed, because it is a small group of experts that are allowed to create nature according to their own vision. This usually involves a complete transformation of an area. The new nature is often only to a limited extent accessible to the general public and many types of uses are prohibited.

This relation between tourism and biodiversity is relevant in the light of the goals of sustainable use and equitable sharing. From the latter point of view, small-scale, local entrepreneurs should receive more attention. With regard to sustainable use, the question of what part of the tourist industry causes most damage to biodiversity is relevant.

These three relationships between tourism and biodiversity can roughly be characterised as *ecological, experiential and economical*. The first type of relation thus far has received the most attention in the context of biodiversity policies. This might be understood from the fact that the initial drive to set up the Convention was the protection of nature. Including the experiential and economical points of view is however vital from the perspective of intervention. It is important to look at the character of the industry and the motivations of consumers if effective and legitimate measures for biodiversity are to be taken. Consequently, interventions in the relation between tourism and biodiversity should be based on the following considerations:

1. urgency: what activities mainly cause loss of biodiversity?
2. legitimacy: what are the effects for consumers (tourist experience) and producers (distribution of economic benefits)?
3. feasibility: to what extent will interventions be supported by crucial actors?
4. effectiveness: what type of instruments are most effective to reach the desired goal?

1.5 Guide for readers

In chapter 2, we address the question of urgency. We focus on the possibilities of measuring the effects of tourism on biodiversity, especially through dose-effect studies. We also indicate which problems are most damaging to biodiversity. In chapter 3, we address the issues of legitimacy (3.1), feasibility (3.2) and effectiveness (3.3). This chapter gives an overview of relevant actors and a description of different types of instruments. Chapter 4 includes an overview of interventions that are currently undertaken by different actors. We evaluate these current activities as well as the possibilities that some other types of instruments might offer. Chapter 5 is a reflection on a number of crucial issues brought forward in the report. Dilemmas and perspectives are highlighted and discussed.

2 Impacts of tourism on biodiversity

In this chapter we elaborate on the impacts of tourism on biodiversity and the possibilities offered by dose-effect research to measure these impacts. The complexity of such research and its confinements are explored. Because little precise knowledge of the effects of tourism on biodiversity exists, judgements must be based mainly on expert visions.

2.1 Measuring impacts of tourism: some considerations

In this paragraph, some aspects relevant for measuring tourism impacts are highlighted. Firstly, the complexity of the 'tourism chain' is addressed. Secondly, five dimensions that should be considered are described. Finally, a conceptual model is presented which summarises these considerations.

The tourism chain

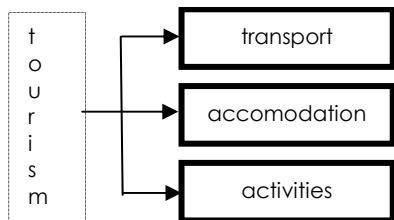
When measuring the impacts of tourism, it is important to consider the whole 'tourism chain'.

From the perspective of a Dutch tourist travelling to Costa Rica, a trip is made up of many separate elements: the flight, the accommodation, attractions visited, souvenirs taken home and so on. This is what we will refer to as the tourism chain⁸. When trying to reduce this chain to its most elementary parts, a classical subdivision is that of transport, accommodation and activities (figure 2.1).

All these separate parts can be laid out into more detailed 'chains' of their own. Air travel, for example, consists of flight reservation at a travel agency, a pre-flight stay at the airport, drinking and dining, using facilities aboard the plane, and visiting tax-free shops on the way back. With regard to effects on biodiversity, the construction of airports and aeroplanes and of all other related facilities, such as the flying itself and the activities aboard, should all be included. The maintenance and disposal of aeroplanes should also be considered.

⁸ Tourism chains are perceived in many ways. We have chosen a tourist trip as a point of departure since it permits us to examine all elements of tourism. Different choices are possible, i.e. when referring to one entrepreneur's product (e.g. a hotel).

figure 2.1 parts of the tourist chain



When unfolding the tourism chain, it becomes clear that tourism is a compound 'product' or service. The tourism chain is therefore more complex than that of 'singular' products such as bananas, cars or plastic toys. There are many producers and each one of them provides a small part of the tourism product. Moreover, many elements used by tourists

(that can thus be considered a part of the tourist product) are provided by non-tourism sectors: transport, shops, various types of services. Even tourists themselves often bring in part of the product. This is for example the case with surfing, cycling and so on. The individual tourist thus plays a crucial role in the creation of a tourist product, and no holiday is exactly the same as another one. Especially when looking at individual travellers, one could say that each tourist makes up his or her own holiday. This means that impact on biodiversity will be different in each case. Even if two travellers undertake the same activity, differences between individual behaviour can be highly relevant. For visits to nature parks, for example, the choice of type of transport (by car or by foot), route (on or off the beaten track) and discipline (litter, noise) can create huge differences in terms of impacts on biodiversity.

Another aspect relevant in this respect, is actual tourist products (the 'assemblage' in the TRAF0-model on page 8) are produced and consumed simultaneously. Consumption takes place 'in situ': at the same place where it is produced.

Summarising, the following characteristics should be taken into account when trying to measure the relationships between tourism and biodiversity:

- ❖ impacts of both *construction and maintenance* of (tourist) infrastructure and use (activities by tourists) should be included;
- ❖ tourism is a compound product, jointly created by many (often small) producers;
- ❖ consumers themselves bring in part of the tourist product;
- ❖ production and consumption take place simultaneously and 'in situ'; and
- ❖ impacts on biodiversity differ widely among tourists and depend on activity patterns and tourist behaviour.

Impacts: five dimensions

Five dimensions should be considered when measuring the impacts of tourism on biodiversity.

Dimension one: positive versus negative impacts

Tourism can have both positive and negative impacts on biodiversity. Methods for measuring the impacts of tourism tend to focus on the negative impacts. Positive impacts are however substantial. In the textbox on the next page, some figures on the financial contribution of tourism to biodiversity are mentioned.

Dimension two: direct versus indirect impacts

Tourism can have both direct and indirect impacts. Examples of direct negative impacts are hunting of endangered species, disturbance of animals and trampling on plants. Some indirect negative effects are induced through pollution of the 'grey' environment: decline of the ozone layer, pollution of rivers, dumping of waste material etc. On the positive side, indirect effects are the use of park fees for nature conservation and consciousness-raising of both tourists and the local population.

Dimension three: spatial scale

The spatial scale of impacts can vary from global warming and climate change - that have an impact on biodiversity world-wide - to trampling which effects are locally bound. In between these two extremes, different levels can be discerned. For example, the pollution of ground water has an impact on the entire downstream drainage area. Effects can be restricted to one ecosystem or to a part thereof. Some may be restricted to areas visited by tourists, others spill-over in to neighbouring areas. It is important to know whether effects are diffuse, or restricted to the source.

Dimension four: time scale

Disturbance caused by tourism can be temporary or long lasting. This depends on the type and seriousness of the impact, but also on the vulnerability and recuperative power of the species or the ecosystem. The coral reef in Cahuita National Park, for example, is very sensitive to disturbance (physical contact) and pollution. On the other hand, some animals seem to be able to adapt rather well to the presence of humans.

Nature parks: use of tourism income for nature conservation

Nature conservation organisations like 'Natuurmonumenten' in the Netherlands or Servicio Parques Nacionales (SPN) in Costa Rica have to secure their own income and, in fact, do this to an increasingly significant extent.

In 1995, SPN decided to increase the admittance fees for foreign tourists wishing to visit the National Parks from US\$5 to US\$15, despite strong protest from the Costa Rican Tourism Board (ICT) and the local population. This price increase was motivated by the argument that it was reasonable to ask that foreign tourists, in exchange for experiencing the pleasures of Costa Rica's national parks, should contribute to their maintenance. This increase in entrance fees resulted in a decline in the number of visitors but a substantial increase in income from about US\$1 million in 1993 and about US\$1.5 million in 1994 to US\$2.6 million in 1995 (Bermudez 1995; Inman 1998). However, under pressure from tourist organisations such as ICT and CANATUR entry prices were lowered in 1996 to US\$6. An attempt is now being made to increase income further by delegating various services and facilities (parking, guides and souvenir sales).

The role of tourism in the *private* reserves is equally important for the future of nature conservation in Costa Rica. There are about 150 private reserves in all and these cover some 5% of the total area of Costa Rica. The owners of the private reserves finance their reforestation and management to a very important extent by running eco-lodges. Eco-lodges can generate an annual income of as much as \$300 per hectare per year (Bien 1995). In contrast to this, cattle husbandry generates no more than US\$10-US\$20 per hectare. In Costa Rica, 150 ecolodges produce 50% of private reserve income. A very well known example of this development is Rara Avis. Over 340 species of birds have been found at Rara Avis, as well as an abundance of other fauna and flora. Rara Avis has as its goal the preservation of the rainforest through tourism. Tourists stay in one of the two lodges and are accompanied into the rainforest by naturalist guides. A total of 70 persons from the neighbouring village of Horquetas work in the reserve. According to Jurgschat (1997) their salaries exceed the national, tourist related average by far, and in 1993, the project made a profit of \$400,000.

Another somewhat different example is Monteverde, the best-visited private reserve in Costa Rica with around 50,000 visitors a year. The Monteverde reserve has quite good facilities compared to the public national parks (Rovinski, 1991). For US\$8 foreign tourists get access to well-kept trails. Information brochures are available and for US\$15-20 a well-educated escort will guide the tourists through the attractions. Equipment rental is available in the souvenir shop. In Monteverde, only 2% of the reserve is open for public visits and approximately 90% is not even open for research purposes. The maximum number of tourists allowed to visit the reserve at the same time is 100. If a higher number of tourists were allowed to use the limited facilities, both the ecological value and the experience value would be jeopardized. In the Monteverde reserve, about 98% of the income stems from tourism. In 1992 tourists spent some US\$37 on average. Thirteen percent was used to develop the reserve; the remaining 87% went to the local community, that is to say the residents of Monteverde including foreign businessmen. In 1995, tourists spent about US\$50 of which some 90% went to the local community. In this way the average income from tourism in Monteverde is three times as high as from other sources. Research by Echeverria et.al. (1995) has shown that when the contingent valuation method is used the per hectare economic value of the Monteverde reserve appears to be significantly higher than it would be if it had other user functions such as agriculture and cattle husbandry. In the same study Monteverde's overall contribution to the economy was calculated at approximately 18% of Costa Rica's total tourism revenues (Baez, 1996). Another study estimated the present value of the Monteverde Cloud Forest Biological preserve at between US\$ 2.4 and 2.9 million. This figure was attained with the travel cost valuation technique and using a 4% real interest rate and assuming that the real value of the site remains constant over time (Inman, 1998). Menkhaus and Lober (in: Weaver, 1998), using a sample-derived travel-cost model, calculated that the average US tourist placed a value of US\$1150, - on a trip to Monteverde, when all expenses involved in the trip were taken into consideration. Extrapolated to all US visitors to Monteverde, this means that the Reserve accounted for US\$4.5 million tourist expenditures in Costa Rica.

Dimension five: different types of impacts

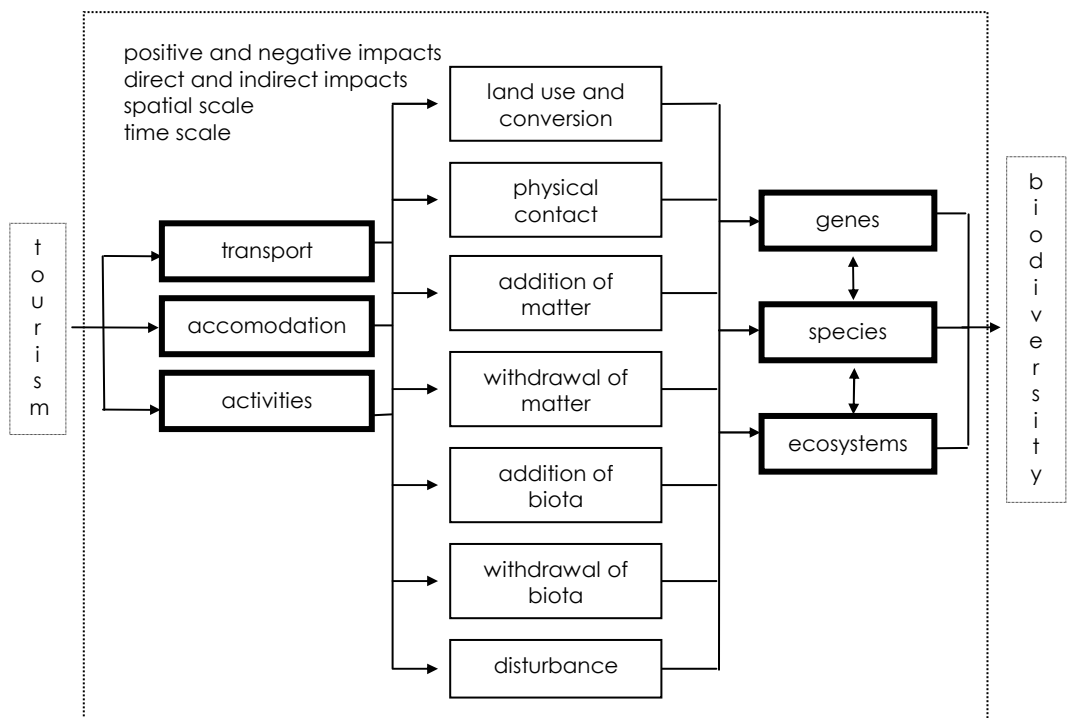
Apart from these general dimensions, different ways in which tourism, or human behaviour, can have an impact on biodiversity can be discerned. In the literature the following categories have been found⁹:

- ❖ land use and conversion;
- ❖ physical contact;
- ❖ addition of matter;
- ❖ addition of biota;
- ❖ withdrawal of matter;
- ❖ withdrawal of biota; and
- ❖ disturbance.

(Goedhart, 1997; Philipsen, 1998 and Sprengers, 1995)

This latter dimension can be related to dimension two and three. Land use and conversion has an impact on biodiversity, for example. Disturbance and physical contact have an impact at the spot. Addition and withdrawal of matter and biota usually will induce indirect effects.

figure 2.2 Conceptual model of the ecological impacts of tourism on biodiversity



⁹ These categories comprise all types of impacts that are mentioned in the literature, though sometimes different labels are used (e.g. destruction of habitat instead of land conversion).

2.2 Complications of measuring biodiversity

When trying to apply the above conceptual model to empirical research, one of the aspects that need to be worked out is the notion of biodiversity. Biodiversity as defined by the Rio Convention includes genetic, species and ecosystems diversity. This definition specifies what types of diversity should be included in measurements of biodiversity, but when brought to practise a need for further choices arises.

Biodiversity: a need for choices

A simultaneous maximisation or optimisation of all three types of diversity (genes, species and ecosystems) is not possible. Conserving a maximum diversity in species is not necessarily in concordance with the conservation of ecosystems or genetic diversity. Choices should be made as to what diversity should be conserved where, and how. The relevance and consequences of such choices is illustrated in the textbox on the next page, using the example of biodiversity policy in the Netherlands.

Some of the aspects that should be taken into account are the following:

Spatial scale

Questions relating to scale are essential when valuing diversity: can conservation of biodiversity in one place compensate for a loss of biodiversity in another spot? Should the Dutch biodiversity policy be aimed at biodiversity within the Netherlands, Western Europe or biodiversity world-wide? If biodiversity in the Netherlands is taken as a point of departure, species that are rare within the country (but might be abundant elsewhere in the world) will receive special attention. If biodiversity world-wide is taken as a point of departure, it might be decided that it is more cost-effective to try to preserve these species in other areas (e.g. in places where they are not yet endangered). This dimension is also relevant for discussions on equality: can the Netherlands fulfil their CBD duties by compensating the loss of biodiversity in their own country by paying for conservation of parts of the rain forest in Costa Rica?

In situ or ex situ

Related to spatial scale is the question whether conservation of genes and species should take place in situ (conservation in the natural habitat) or ex situ. Conservation ex situ of certain species takes place in zoos, for example. Some varieties of rice are preserved in special 'genetic data banks'. Discussion in the Netherlands on the reconstruction of disappeared ecosystems (nature construction projects) can be placed under this heading. Conservation ex situ may be more effective for keeping up diversity, but may nevertheless be regarded as undesirable.

Choices on biodiversity conservation in the Netherlands

In practice, choices are often not based on conservation of (the largest possible) diversity. The number of different species on earth is estimated somewhere between 5 to 100 million, a large majority of which is insects and micro-organisms. Around 1.7 million species have been described to date (WCMC, 1995). Not all of these species receive the same amount of attention in operationalisations of biodiversity and in policy. In the Netherlands, for example, species that are monitored for policy purposes are those that are already threatened or rare within the country, and – which is probably an even more important criterion - that have a certain appeal*. The largest decline, however, does not take place among those species placed on the list, but rather among insects living on the water and pollinators such as bees. Soil flora and fauna are not on the list, even though they are a very large and ecologically very important group of organisms (Nieukerken et.al., 1997). Only 657 plants and animals have been selected out of a total of 36.000. The taxonomic groups these species are a part of together represent only 5,5 % of all Dutch plants and animals.

Choices that have been made in terms of species to be monitored are based on political, financial and social considerations (Nieukerken et.al., 1997). Genetic aspects of biodiversity do not play any role in the approach (ter Keurs et.al., 1997b). What is going on at present, is thus the monitoring of a number of species, but not of biodiversity as such**. Another example that can be mentioned is the fact that " ...[l]oss of biodiversity in the form of crop varieties and livestock breeds is of near zero significance in terms of overall global diversity, but genetic erosion in these populations is of particular human concern in so far as it has implications for food supply and the sustainability of locally-adapted agricultural practices" (WCMC, 1995: 6). This makes clear that, though conservation of biodiversity is the official policy goal, it is not always used (or even desirable!) as a guideline for policy implementation. Even if this goal would be more conscientiously adopted in policy, it would meet with serious difficulties.

*These and the following remarks refer to the so-called 'doelsoortenbenadering' (litt: 'target species approach').

**Not all of the arguments mentioned here apply to the EKI (Ecological Capital Index) that has recently been developed as a measure for biodiversity, and that might be applied as a general reference for the state of nature within the Netherlands

Point of reference

A point of reference should be chosen for monitoring biodiversity. What is regarded as the 'maximum state of naturalness' (VROM, 1998), or as the desirable amount and type of biodiversity? The Ecological Capital Index (EKI), a measure for the state of nature/biodiversity in the Netherlands, takes the situation that prevailed before the industrialisation of agriculture (1900-1950) as a starting point. This is more or less in accordance with the spirit in which the Convention was set up. The Convention was born out of the growing concern that some species and some types of ecosystems are disappearing, while others flourish: the 'MacDonaldisation of nature'¹⁰.

¹⁰ This phrase was put forward by Ben ten Brink of the RIVM during the first workshop.

Requirements for measures and yardsticks

In the Netherlands, the development of measures, yardsticks and indexes for biodiversity in general but also for tourism and biodiversity in particular, is a topical issue. Government, research institutes and tourism organisations are all developing methods. There are various reasons why the development of measures and yardsticks can be relevant.

Yardsticks can serve to provide a general insight into the state of biodiversity. The EKI (Ecological Capital Index) that is being developed in the Netherlands is an example. The idea is to represent the state of biodiversity in one figure, similar to what the AEX or the Dow Jones are for the economy. In this way, the concept of biodiversity becomes more tangible and the index can play an important role in terms of communication. At the same time, the use of such yardsticks can have a number of drawbacks. The most important one is that there is a danger that the story behind the figure will be overlooked. If the EKI rises from, say, 15 to 20, the conclusion might be that biodiversity is 'doing fine'. However, comparable to the AEX, the EKI will draw conclusion on 'the biodiversity' that are based only on a small part thereof. It is an important requirement that such yardsticks are relatively easy to measure and at the same time representative of the whole range of biodiversity.

Though communication and making biodiversity more tangible is an important reason for developing measures and yardsticks, they are usually also meant to serve as a basis for intervention. In such case, they should meet some other requirements as well. Firstly, *all* the effects of tourism on biodiversity should be included. This can be done by looking at the whole 'chain' of related activities and by taking the whole 'life-cycle' of a product or service into account. Effects related to the production of resources or by sub-contractors, effects related to production, to use, and to disposal. When trying to minimise effects on biodiversity throughout the life-cycle, this is referred to as 'integrated chain management'.

Secondly, measures should be able to discern between different types of tourist behaviour and/or tourism activities. If only the effects of tourism in general on biodiversity are assessed, the only measure that can be taken is to restrict tourism over the whole range. At the same time, no alternatives can be given for disruptive behaviour. A yardstick developed by CREM, for example, only presents one general figure for the pressure caused by an average tourist to a specific area or country (VROM, 1998). As it is not specified what type of tourists or what part of the tourist chain causes most problems, the only possible measure to relieve pressure would be to diminish the number of visitors. A hardly attainable and probably not very effective measure. It would be more useful to have insight into the types of behaviour that are most disruptive, so alternatives can be offered. This is, of course, not only true for the behaviour of tourists, but also for the functioning of the tourist industry.

Exclusiveness of species

It can be argued that not all species are of the same importance for biodiversity. For example, the World Conservation Monitoring Centre states that a straightforward count of the number of species only provides a partial indication of biological diversity. Implicit within the term biodiversity

is the concept of degree of extent of variation: that is, organisms that differ widely from each other in some respect, by definition contribute more to overall diversity than those which are very similar. Thus, species that are genetically very different from any other species, should be regarded as more valuable for biodiversity than a species that very much resembles many others (WCMC, 1995).

Threatened species

Different choices can be made, however. According to the WCMC, priority should be given to threatened or rare species, because the extinction of species is the most fundamental type of biodiversity loss (WCMC, 1995). When stating that priority should be given to the conservation of threatened species, it is important to realise that species extinction in itself is a natural process. It is hard to determine exactly which part of the extinction is due to human activity. Moreover, it is hard to determine the rate of extinction itself: "*Unfortunately, quantifying rates of species extinction, both at present and historically, is difficult... Even on best available present knowledge, these estimates involve large degrees of uncertainty, and predictions of current and future extinction rates should be interpreted with very considerable caution ...*" (WCMC, 1995: 5/6).

This touches on a very fundamental problem related to measuring impacts on biodiversity, which is related to *a lack of knowledge on the functioning and dynamics of natural systems*. No matter what choices and priorities with regard to conservation are made, the lack of knowledge on the functioning of natural systems will have to be dealt with (WRR, 1994).

Lack of knowledge: dealing with uncertainty

The lack of knowledge on the functioning and dynamics of natural systems exists on several levels. Some examples are:

- ❖ there is insufficient knowledge of the functioning of ecosystems. This means for example, that it is not clear to what extent decrease in biodiversity is a natural phenomenon. The self-recuperative power of ecosystems and of species is unknown, as are the related time-scales
- ❖ in addition, it is not clear what species play a key-role in the survival of ecosystems, or with regard to life-support and environmental functions. Since it is not clear what species are representative of groups or of the functioning of systems, it is difficult to make an educated choice as to which species to monitor;
- ❖ current changes in biodiversity are no doubt to a large extent related to human activities. It is, however, difficult if not impossible to establish which changes exactly are due to human activity, and how long a system should be monitored in order to be able to draw conclusions. It is

not clear what types of activities mainly cause the decline in biodiversity.

(Sprengers et.al. 1995; ter Keurs et.al., 1997b).

The fact that such questions can not yet be fully answered leads to uncertainties about the effectiveness of measures to protect biodiversity. They also create uncertainty about the kinds of species that should be monitored in order to have accurate information about the state of the whole ecosystem.

2.3 Establishing dose-effects relations

In the previous paragraph, an overview is presented of some general complications for measuring biodiversity and the impact of human activities on biodiversity. Below, we will focus on difficulties that are related specifically to measuring impacts of tourism on biodiversity. We will focus on the so-called 'dose-effect research'.

Complexity of dose-effect research

In dose-effect studies, the aim is to determine the causal effects of human behaviour on individuals or populations of animals and plants (Philipsen, 1998; van den Ham et.al., 1995). In this section we want to illustrate the complexity of such studies. For this purpose, two figures have been included in appendix 1. These figures give a (selective) impression of the impacts that walking in nature parks (figure 1) and flying (figure 2) can have on biodiversity. The figures provide only a schematic illustration, and are not exhaustive. Below we will describe some of the aspects that are lacking from the schemes.

In the first place, *the schemes do not include all elements related to the respective parts of the tourism chain*. With regard to the scheme on flying, only the flight itself is included. Effects related to associated activities, such as booking a flight via a travel agency, driving to the airport (also of employees and suppliers), the pre-flight stay at the airport and visiting of tax-free shops are not included. Furthermore, the construction, maintenance and disposal of aeroplanes, airports and airport facilities (parking lots, restaurants, restrooms etc.) are left out. The same is true for the scheme of walking in a national park. Here too, only effects caused by walking are taken into account. The use and construction of facilities are left out. Also, several indirect impacts are excluded, as well as effects

outside the national park: transport to and from the park; road construction; construction of parking lots; accommodation in- and outside the park; waste and pollution created by shops and visitor centres.

Secondly, not all relevant dimensions are included. Spatial scale, for example, is not included, as no distinction is made between international, national, regional or local doses and effects. In addition, positive effects of tourism are left out. This aspect is generally lacking in dose-effect studies. It is, of course, very difficult to assess the ecological effects of awareness-raising in any precise way. These types of effects can usually not be related to just one dose, and not only to tourism. The growing awareness of the value of biodiversity is related to more general societal and political developments.

In the third place, the schemes are *not worked out far enough to serve as a base for measurement.* The latter would necessitate a translation of dose and effects indicators into parameters (like number of walkers passing, production of noise in dB, emission of CO₂, etc.).

The schemes are also *not applicable to a specific area.* If the aim is to measure impacts, region-specific characteristics are essential, as the type and intensity of the environmental impacts of tourism depend on the interaction between the type of tourism development, the organisation and participation forms, purposes and motives of the tourist, the time-space behaviour (what does he do where and when), and the natural, socio-economic, cultural and institutional characteristics of the host area.

General weaknesses of dose-effect research

As a result of this complexity, and coupled with the previous discussion in sections 2.1 and 2.2, the following weaknesses of dose-effect studies can be mentioned (see van der Duim et.al. 1995):

1. Dose-effect relationships are not usually followed long enough. Research usually only provides insight into ethological effects (the immediate changes in behaviour) and not ecological effects (the more structural changes in an ecological system). No insight is provided into possible habituation processes. Some types of animals seem to be able to adapt themselves very well to the presence of people.
2. It is extremely difficult to establish whether the effects observed in a natural system are the direct result of recreational behaviour. It is only very occasionally that causal relationships are demonstrated. This is not only due to lack of information on the natural dynamics of ecological systems, but also because of the difficulty to distinguish impacts of tourism from those of other activities. This is the case when tourists make use of pre-existing services or facilities in the host area or, vice-versa,

when the local population makes use of services initially designed for tourism. Tourism also 'induces' further development of the host region, either by speculative land development to tap agglomeration economies or by provision of infrastructure that attracts activities, which would not otherwise locate in the particular region.

3. Because there is insufficient knowledge of the functioning and position of species within ecosystems, choices on which species to monitor are closely bound to normative assumptions. There is a great temptation to simply research those relationships that are important to justify political decisions. Often, only rare or vulnerable plants or animal species are chosen. The same is true for the choice of dose-indicators: on the recreational side of the spectrum, dose-variables are selected which are already assumed to be damaging.
4. Even if it is shown that recreation causes certain changes in nature, the question as to whether these changes are acceptable or not still remains and this necessitates value judgements. Dose-effect research is but an instrument for measuring the effect of recreative variables on biological variables. This can never substitute for the normative and thus political character of making choices. Establishing a limit for changes is not a technical task but a question of valuation.

2.4 Impacts of tourism: expert vision and dealing with uncertainty

Complexity and costs are the main reason why only a few dose-effect studies have been undertaken. Especially studies aimed at showing causal relationships between tourism activities and ecological consequences are scarce. Notwithstanding the fact that precise knowledge of the effects of tourism on biodiversity is hard to get, a general indication of the problems that are most urgent can be given, based on expert judgements.

There seems some consensus that land use and conversion is the single most important cause of biodiversity loss world wide (VROM, 1998; Bundesamt für Naturschutz, 1997). In Costa Rica, 39% of the territory has been deforested between 1950 and 1990. Hardly any of this deforestation is related to tourism, however (Bundesamt für Naturschutz, 1997 / WCMC, 1992). It is more likely that tourism has a positive impact with regard to the *quantity* of land preserved for nature (about 25% of the country is now under some form of protection)¹¹. On the other hand, the *quality* of those

¹¹ However, on a local scale tourism also leads to habitat destruction. This is especially true for large-scale projects like skiing resorts. The emphasis of tourism development in Costa Rica seems to have shifted towards less eco and more 'main-stream' and larger scale

nature areas that are frequently visited has probably suffered from tourism development¹².

Figure 2.3 gives an indication of the most urgent problems that tourism creates for biodiversity¹³. The contents of the table are explained in the textbox on the next page. The table provides a general overview, relating to tourism from the Netherlands to Costa Rica, which can be used to set priorities at national levels. It is important, however, to consider the particularities of the local situation. Some eco-systems are more vulnerable to certain types of activities than others.

Since the scheme is based on expert-visions, it is important to take into account that other experts can contest these conclusions. Critique of a group of experts on the conclusions of other experts frequently occurs

figure 2.3 Expert vision of the main negative impacts of tourism on biodiversity

	Construction / Use	Main negative effects on biodiversity in Costa Rica
Transport: to and from Costa Rica	<ul style="list-style-type: none"> Flying 	<ul style="list-style-type: none"> Addition of matter; indirect; long-term; international scale Disturbance; direct; short-term, local scale
Accommodation	<ul style="list-style-type: none"> Construction of hotels etc. Disposal of garbage disposal, sewage treatment etc (due to lack of systems) 	<ul style="list-style-type: none"> Land use and conversion; direct; short term, local scale Addition of matter; indirect; long term; local / regional scale
Activities	<ul style="list-style-type: none"> Activities in nature parks (walking, trekking, birdwatching etc); Watersports (motorboats, jetski etc). 	<ul style="list-style-type: none"> Physical contact / disturbance; direct; short term; local scale Addition of biota; indirect; long term; scale of ecosystem Disturbance; direct; short term; local scale Addition of matter; indirect; long term; scale of ecosystem

developments lately. The building of hotels on beaches or in other sensitive areas means that land conversion remains an important point of attention.

¹² This was also one of the conclusions of the first expert-meeting on tourism and biodiversity held in June 1999. See appendix 4 for a list of participants in the workshop.

¹³ These conclusions are based on: Bundesamt für Naturschutz, 1997; concept of the report on tourism and biodiversity that will serve as input for the "Beleidsnota Biodiversiteit"; and the workshops organised within the framework of this study.

Commentary to figure 2.3:

- ❖ Tourism accounts for about two-thirds of total air-traffic. Air traffic accounts for 3,5 percent of global climate change. Estimates are that this contribution will rise to 5 or possibly 10 percent in the coming years (Volkskrant, 1999).
 - ❖ Most research makes it clear that the largest impact is related to infrastructure and building activities rather than from tourism activities as such. This is especially true for the massively developed coastal tourism.
 - ❖ In nature tourism, where relatively little infrastructure is needed and been developed, activities are relatively more harmful than infrastructure.
 - ❖ The draining of untreated sewage is very damaging, because it affects the entire downstream area. Especially in mountainous areas and near coral reefs, this can cause much damage. In some other types of systems (like mangrove woods) natural filtering systems can to some extent prevent the occurrence of ecological damage.
 - ❖ With regard to developing countries, and especially islands, garbage disposal is a problem. Islands often dispose of it by dumping at sea. In other cases, inland areas are used for refuse disposal.
 - ❖ The increase of sports like skiing, diving, golfing and motorboating has adverse effects on biodiversity; especially skiing and diving which are often located in sensitive areas.
- (sources: see footnote 11).

when environmental issues are at stake: climate change and the dying of woods, for example. This implies that interventions aimed to minimise the negative impacts of tourism on biodiversity must deal with the uncertainties arising from a lack of knowledge.

Nevertheless, even if more knowledge were available, it would still be necessary to weigh the impacts on biodiversity against the impacts on the economy, on tourist experience and so on. Or, per van der Duim et.al. (1995): "... even if it is shown that recreation causes certain changes in biodiversity, the question as to whether these changes are acceptable or not still remains and this necessitates value judgements. Dose-effect research is but an instrument for measuring the effect of recreative variables on biological variables. This can never substitute for the normative and thus political character of making choices. The establishment of a boundary value above which changes are unacceptable is not a technical task but a question of valuation". This valuation should proceed the measuring or monitoring of changes.

Valuation is dependent on the perception of risks, and on the interests of the parties involved. Actors may dispute each others knowledge on the seriousness of impacts, and they will value these impacts in different ways. Seen in this light, setting priorities for biodiversity is not just a matter of assessing the impacts scientifically, but much more a matter of communication and negotiation with the parties involved.

3 Reflections on intervention

Chapter 2 presented the ecological impacts of tourism on biodiversity, thus addressing the need for intervention. In this chapter discuss the social, political and economic aspects relevant to interventions in tourism and biodiversity relations: the legitimacy of interventions (notably the issue of equal sharing of benefits); the feasibility of interventions and the effectiveness of instruments.

Tourism and biodiversity policy should not be based solely on ecological criteria. According to the Convention on Biological Diversity, equal sharing of benefits is also important. Moreover, knowledge of the feasibility of policies and the most effective way to reach policy goals is important. Therefore, setting priorities for intervention involves more than knowing what negative impacts tourism has on biodiversity. At minimum, three other aspects should be considered (see also paragraph 1.4):

- ❖ the legitimacy of interventions in the light of effects on tourist experiences and especially on the distribution of economic benefits;
- ❖ the feasibility of interventions: to what extent interventions supported by crucial actors?
- ❖ the effectiveness of interventions: what instruments are most appropriate to reach the desired goal?

The following sections discuss each issue in more detail.

3.1 Legitimacy of interventions

Sharing the benefits arising from the use of biological resources is taken up as an explicit goal in the Convention on Biological Diversity. In relation to developing countries, the goal of equal sharing is usually translated as a need to give special attention to the position of small-scale local enterprises. When relating this goal to tourism, as depicted in chapter one, it is arguable that equal sharing is an important issue not only for the tourism industry, but also for tourist experiences. The following addresses both issues.

It may seem out of place to plea for special attention for tourist experience from the perspective of equal sharing. Experience seems (and is) of minor

Biodiversity and tourist experiences

Van der Duim and Elands (1999) describe the roles of 'nature' for tourists that travel to Costa Rica. They start with a theoretical framework and analyse how this is relevant in the Costa Rican context.

Loves for nature

The theoretical framework is based on the work of Lengkeek (1999a). He discerns five 'loves for nature*'. The metaphor of love serves to show that the relation with nature can vary from being superficial and shallow like a flirt, or deep and lasting, like in a marriage.

1. Firstly, tourists can be in search of *entertainment*. In Costa Rica, these tourists can go to destinations like Playa Papagayo, Jacó or Manuel Antonio. These resorts are built to provide entertainment and relaxation. Nature serves mainly as a decoration and an extra attraction. This type of tourist experiences can also be characterised as a *flirt with nature*.
2. A second drive for tourist experience is a *change* from everyday life. A holiday serves to escape from the stress and offers the possibility to 'be away from it all'. Nature then serves as a place where one can relax and come to oneself again.
3. *Being interested* in nature or biodiversity is the third motive that can be discerned. For this group of tourists, nature is something beyond the horizon of their everyday lives. They are fascinated by its marvels and hope to experience some of the things they read about during their holidays.
4. If visitors in search of these experiences do come across a colourful bird like a quetzal, there is a short moment of *exaltation*. The confrontation with a quetzal, boa constrictor, pia pia or sloth creates a shock effect, as though real nature shows itself momentarily only to become elusive once again.
5. Finally, there is a group of 'experts' that not only wants to see or hear nature, but wants to know and understand it. For them, it is 'real love' but also the desire for *control*: a control that becomes overt in the wish to determinate species, to grasp the laws of nature. They are working as professionals for organisations like INBIO or the Organisation for Tropical Studies. It is this latter type of experience that Lengkeek compares to 'marriage'.

Experiences of tourists in Costa Rica

To what extent do the above experiences play a role in the motives of tourists for visiting Costa Rica? In order to understand this, we should go back to the origins of the development of international tourism in Costa Rica. These can be traced back to the fascination of biologists, geologists, geographers and other scientists for the natural richness of the country, which has strongly increased since the 1970s. On the one hand, this has led to initiatives in the field of nature conservation and is one of the explanations for the fact that Costa Rica has a large amount of natural parks and protected areas. On the other hand, scientific research has led to a large number of publications, not only in specialised journals, but also popular journals like National Geographic. In combination with television documentaries and newspaper articles, these have increased the interest of the general public.

Thus, the motive of 'control', the expert love for biodiversity and nature lies at the basis of international tourism to Costa Rica. To date, at least 60% of tourists to Costa Rica indicate that a visit to one of the national parks was an important motive to come to the country (Boo, 1990). In a study by Heykers and Verkooijen (1997) over 75% state that nature and parks were a reason to come to Costa Rica. Sun, sea and beach ranged second and were mentioned by almost half of the respondents**. Based on the results of this research, van der Duim and Elands discern different types of tourists, for each of which nature plays a different role. Those for whom nature is the main motive to visit Costa Rica ('nature tourists') make up 22% of the respondents. For about two-thirds of the respondents, nature is one of the motives next to others (climate, culture or sports). The remaining group (often return visitors) name family visits as the core motive (almost 10%). The 'nature tourists' consists mainly of Europeans that travel to Costa Rica for the first time. Most of them travel with their partner. Only one quarter has composed their holiday partly or completely with the help of a travel agency. Only a very small percentage of the group of nature tourists consists of visitors that have been to the country before.

For the respondents in this study, interest for nature is the main motive and in some cases exaltation will occur. Though the origins of tourism can be traced back to the 'marriage' motive, it was not found as a mode in this research. This is hardly surprising, considering the location of the study. Also, it can be expected that this group is generally relatively small.

*This typology is based on a theory initially developed by Cohen (1979).

** In this research, tourists travelling to Costa Rica on an individual basis were questioned during their stay in Quepos or Manuel Antonio, two villas positioned centrally on the Pacific coast.

importance when compared to the basal problems that the poorer part of the Costa Rican population encounters. It is not our intention to imply that these two interests should be given the same weight. Nevertheless, we think considering tourist experience adds an important aspect and provides the basis for a more balanced choice of interventions.

Interventions for biodiversity and tourist experiences

Clearly some restrictions on tourism behaviour are necessary for the conservation of biodiversity. Such interventions may result in limiting certain types of tourist experience. In some cases, when such areas are highly endangered, this type of measure may be unavoidable. However, we argue that the diversity of tourist experiences should be considered when taking restrictive measures. The meaning of biodiversity for different tourists should be respected as much as possible and the opportunities for having different experiences should be provided. When intervening in order to protect biodiversity, it is important to know what other alternatives are available to substitute for those damaging activities. If all the rain forests were closed to tourists, an encounter with these ecosystems would no longer be possible. If suitable alternatives are offered, intervention can be more easily legitimised.

Availability of alternatives should be matched to the question of how relevant the activity is in terms of the tourist experience. What is the risk that tourist experiences will be harmed by this intervention? A visit to a nature park, for example, is a crucial aspect of a trip to Costa Rica. Littering in those parks, however, is not. Interventions focusing on litter prevention will be easier to legitimise than any action aimed at closing parks. On the other hand, it is questionable whether tourists should necessarily want to visit the most ecologically sensitive parts of a nature park. As examples in Monteverde and Manuel Antonio show, tourist experiences are not really hampered by the fact large parts of the park area are not accessible. Zoning or quotas for visiting the most sensitive areas may be legitimised from this perspective.

Different types of interventions can be discerned based on these considerations, in terms of the associated effects on the recreational experience:

- ❖ interventions that make certain recreational experiences impossible;
- ❖ interventions that confine recreational experience in different ways: spatial (zoning), temporal (no visits during breeding season or after dark) or quantitative (quota on the number of visitors);
- ❖ interventions that do not interfere with the basic recreational experience, yet are aimed to divert detrimental consequences of tourism (interventions such as litter prevention, diminishing water waste, cleaning sewage water, etc.); and

- ❖ interventions that enlarge possibilities for tourist experiences while having a positive impact on biodiversity (creation of nature parks, guided tours etc.).

Research on the relationship between biodiversity and tourist experiences is scarce. Most studies that do exist, focus on nature more generally, and tend to occur in nature parks. Further, only those tourists already visiting an area are generally considered. The expectations and desires of non-visitors are hardly ever included. The textbox on the previous page presents results of a study on the importance of nature for tourists to Costa Rica. Such information will be helpful in the search for alternatives that sufficiently meet the expectations of tourists in terms of the quality of their experience.

Producers and biodiversity. Equal sharing of benefits?

The legitimacy of interventions will be highly related to the effects it has on the distribution of economic benefits. The goal of equal sharing aims to create more possibilities for small-scale, local entrepreneurs to benefit from biodiversity. This is primarily a socio-economic rather than an ecological goal.

But it is often argued that an equal sharing in economic terms is also beneficial from an ecological point of view. 'Indigenous' entrepreneurs are thought to operate in ways that are closer to nature than do large international companies (see also paragraph 1.4). According to Valentine (1992), the successful development of eco-tourism depends largely on whether or not the local population derives benefits from nature conservation and the tourism associated with it. Not in the least because this income should offer an alternative to current economic practises, such as agriculture, the timber industry and hunting that are very dependent on natural resources.

Apart from the arguments that refer to the interrelation between economic and ecological goals, an equal sharing is a highly valid goal in itself. What is 'equal' or 'fair', however, depends on the point of view that is taken. Should only Costa Ricans be allowed to benefit from their 'own' biodiversity? How should benefits be divided over the population? Such questions remain, however, rather theoretical. It is probably more fruitful to couple the issue of sharing to current practices and, especially, to needs. Such a point of view makes it safe to say that whatever view is taken the current distribution is highly unequal. Figures of the distribution on an international level illustrate this fact. Only a very small portion of benefits remain in the country (see box on the next page). From those figures mentioned in the textbox it appears that 56% of the money spent by eco-tourists travelling to Costa Rica, is spent outside the country. Considering leakages, Inman (1998) estimated that ultimately 37% of expenditures remain

The distribution of profits from eco-tourism in Costa Rica

In 1988, an attempt was made to determine the total economic value of eco-tourism in Costa Rica. According to Inman (1998) an eco-tourist from an industrialised country pays an average of US\$288 a day. Of this US\$95 goes to the airline, US\$65 to foreign wholesalers, tour operators and travel agencies, US\$18 to the Costa Rican land operator and US\$110 to local Costa Rican entrepreneurs. Of the US\$110 locally spent, an average of US\$23 is spent on ground transport supporting tourism, US\$28 goes to the hotel business, US\$20 to the catering industry, US\$11 as entrance fees to protected areas, US\$12 to the guide and US\$16 to cover the country operators management, administrative and extra costs.

in Costa Rica. How much of the money ends up in small companies is unknown, but it is safe to assume a low percentage.

Some of the instruments currently being developed to stimulate the tourism industry to become more biodiversity-friendly may have a negative effect on the position of small-scale entrepreneurs. One example arises from the efforts to develop hallmarks for the tourism industry (see text box below). In chapter 5 we return to this issue and focus on the way an equal sharing can be achieved.

Hallmarks

The development of a biodiversity hallmark for the tourism industry is a topical issue. The discussions focus on the possibilities to offer sensible, biodiversity-friendly voyages (WWF approved, for example). Transport, destination accommodation and other services should all be operating according to some general criteria. Such hallmarks tend to favour larger enterprises for several reasons.

Firstly, there is a clear danger for small entrepreneurs from the fact that criteria tend to be rather formal and are developed so that they are relatively easy to monitor. In relation to biodiversity this may include such regulations like: presence of a sewage system, leaflets to provide information to tourists in five different languages, utilisation of approved building materials, measures against noise pollution and so on (examples taken from TUI environmental checklist for accommodation). Such types of criteria are relevant for larger accommodation or enterprises. For a small lodge with, say, five rooms, the extent to which it operates in a biodiversity-friendly manner will not depend on this type of criteria, however. Hallmarks should therefore differentiate between different types of enterprises and to take local conditions into account. It is questionable whether this should all be integrated into one single hallmark.

Secondly, small enterprises will often lack the knowledge or the manpower to be able to deal with the bureaucracy that is usually involved with regulations such as hallmarks.

A general aspect that should be taken into account, which is not exclusively related to size, is the fact that hallmarks are susceptible to abuse, especially when monitoring is difficult or lacking.

3.2 Feasibility of interventions

Interventions are more feasible if crucial actors are willing to co-operate. This will generally be the case when the intervention is beneficial to them or if positive consequences compensate negative ones. If actors are not willing to co-operate, they may be forced to do so. However, many actors possess a sort of 'nuisance power': the power to delay or block developments they consider undesirable. Many interventions cannot be implemented by just one party. They require the co-operation of several others in order to be effective. This is, for example, the case in the international arena, where conventions and agreements come about only if governments are willing to negotiate and stick to their promises.

In order to adequately grasp the feasibility of interventions knowledge of the 'tourism network' is relevant:

- ❖ what actors are involved or relevant?
- ❖ what are their goals? and
- ❖ what instruments can they use?

An analysis of these aspects of the tourism network will give an indication how and if support for a certain intervention can be obtained. The goals of actors are indicators of their feelings about biodiversity, and by what arguments they may be persuaded. Their instruments are an indicator of their power and of their ability to steer other actors in return. Thus, there are various actors involved in the tourism chain, who are trying to *intervene* or *are subject to intervention* in the relationship between tourism and biodiversity. Tour operators, for instance, could be a source of information (for tourists or travel agencies), as well as a focal point for governmental extension campaigns or regulation. National governments are influenced by international organisations like the World Tourism Organisation or the United Nations, meanwhile influencing policies of the international, regional and local authorities as well.

The following sections briefly introduce the various actors.

Governments

The role of government is twofold. Firstly, government and government bodies set the pre- and limiting conditions for production and consumption. Secondly, they also play a role in constructing part of the tourism product (infrastructure, maintenance of public space and natural or cultural facilities). For example, Servicio Parques Nacionales (SPN) in Costa Rica plays an important role in the management and maintenance of National Parks and the Costarican Tourism Institute ICT in the promotion of and product development in Costa Rica.

In many respects national government plays a crucial role: *"it is governments that possess the potential power to control, plan and direct the growth and development of tourism. And it is largely through governments that tourism-related international investments and loans and overseas aid are agreed and channelled"* (Mowforth and Munt, 1998: 280). At the same time, it should be realised that governments are dependent upon other actors for the implementation of many of these activities.

They have various instruments at their disposal (see also section 3.3) and play a role in many ways:

- ❖ through national policies in the tourism domain, the environment or by so-called flanking policies through international agreements and conventions;
- ❖ through other policy sectors like spatial planning, transport, economics; and
- ❖ through regional and local policies (like zoning plans and the protection of ecologically fragile areas).

It is important to consider that 'the' government does not exist. Different departments have their own policies that are not always attuned. Many types of policies have indirect effects on biodiversity that are not taken into account. It is therefore important not only to look at policies specifically designed for biodiversity; to consider biodiversity as a factor in all other policies being just as important.

(I) NGO's

Especially in the last two decades socio-environmental organisations have, in line with their mission and field of expertise, spearheaded the advocacy and implementation of programmes and policies to help direct tourism towards sustainability.

Generally speaking, two kinds of organisations can be discerned: tourism related and environmental organisations. An example of an organisation in the tourism sphere is the USA-based Ecotourism Organisation (TES), which previously organised an international conference in Costa Rica in 1995.

NGO's and sustainable tourism

In 1980 an international conference took place in Manila addressing the consequences of international tourism for economies, ecology and the socio-cultural environment. As a result, the Ecumenical Coalition on Third World Tourism (ECTWT) was founded, in which organisations like Tourism Concern (UK), "Tourismus mit Einsicht" (Germany) and Retour Foundation (Netherlands) participate (at this point there is no Costa Rican member-organisation).

With regard to the organisations, which operate in the sideline of the tourism industry, an important result has been achieved at the meeting of the Commission on Sustainable Development (CSD) in 1999 (see also appendix 5). At this meeting, two tourism caucuses were founded: one for the northern countries and one for the south. The tourism caucus members work together to prepare coalition NGO position papers, and to lobby government delegates. Caucuses are also a place for members to network and share information and ideas about approaches to sustainable development. Retour Foundation from the Netherlands is the co-ordinator of the northern caucus.

Within the group of organisations whose primary interests are nature conservation or development issues, the World Wildlife Fund (WWF) and the World Conservation Union (IUCN) are influential players in the international field. According to Mowforth and Munt (1998: 163), these organisations advocate a 'resource conservation' perspective, "*the least controversial stream of modern environmentalism*", in which sustainability is "*conceived as 'sustainable development' and involves sustaining the environment for human production (the creation of national parks) and consumption (for the enrichment and enjoyment of tourists)*". A typical example of this line of thinking is the creation of PAN-parks in Europe (see textbox).

PAN-parks

PAN-parks is a project initiated by the WWF for Nature and the Molecaten Group aimed at creating a sustainable relation between nature conservation and tourism development throughout protected areas of Europe. It provides the opportunity to balance ecological, economical, social and cultural development in and around protected areas, to be recognised by the PAN-parks' logo. This logo is based on a set of principles and criteria. Partners that meet these requirements are certified and permitted to display the PAN-parks' logo. This logo guarantees the high quality of management of both natural and economical resources. It is communicated and marketed as a quality brand in co-operation with certified business partners.

(International) Non-Governmental Organisations can play various roles, such as:

- ❖ assist and support governments in the development of national strategies or master plans, environmental land use, building regulations and standards (e.g. Friends of the Earth Netherlands);
- ❖ encourage the private sector to develop and apply codes and guidelines, environmental management systems, and promote the development of the use of environmental reporting by companies in the various branches of the tourism sector;
- ❖ assist in assessing the environmental effectiveness of existing voluntary initiatives in the various branches of the tourism sector and present corresponding recommendations;

- ❖ developing examples of good practice, promote the transfer of environmentally sound technologies, good practices and management tools adapted for the tourism sector, and disseminate information on environmentally sound technologies to governments and the tourism industry;
- ❖ provide support through the provision of information and capacity development programmes particularly on the costs and benefits of tourism development, the use of economic incentives to promote sustainable tourism, and on destination management;
- ❖ mobilising the general public (like Greenpeace) and educate tourists to change their consumption patterns and promote appropriate environmentally and socially acceptable behaviour in tourism destinations;
- ❖ management of natural areas (like the Netherlands Association for the Preservation of Nature); and
- ❖ assist in the establishment of monitoring progress towards sustainable tourism.

(CSD, 1999)

Tourism and traffic industry

The tourism sector consists of a very diverse set of actors, varying from trans-national operators and carriers, via hotel chains to small-scale entrepreneurs in Costa Rica. With regard to biodiversity, airlines, the accommodation sector (hotels, apartments etc.) and tour operators / travel agencies are of special interest.

The tourism industry has been the target of some well-deserved criticism, as well as the easy scapegoat of many negative impacts of tourism developments. It has therefore been subject to (proposed) interventions by other actors, notably the government, but has also deployed a number of initiatives itself. Especially in recent years, the tourism industry seems to have taken on a different attitude towards biodiversity. Tourist organisations are closely involved in discussions and have acted on a voluntary basis. Mowforth and Munt, (1998: 208) have recently expressed their doubts about the 'practicality' of many 'self-regulation' schemes of the tourism industry: *"Self regulation led by bodies such as the WTTC and the World Tourism Organisation (WTO), whose stated aims are the promotion of the tourism industry rather than restraining it, is likely to lead to policies which pursue profit making in a business world, where profit maximisation and capital accumulation is the dominant form of operation"*.

This cynical view no doubt has some truth in it. The tourism industry in general is not inclined to take much responsibility for environmental damage caused by tourism. Nevertheless, another reason behind the low impact of some of the initiatives is the fact that the sector is not well

organised. The overarching organisations that exist (i.e. WTTC, WTO, ANVR) represent a specific part of the sector and communication with the members is not in all cases very effective. In addition, on a national level co-ordination is meagre. This is true both for Costa Rica and for the Netherlands. One consequence is that it is not easy to communicate with this sector. Not one organisation can be identified as the representative spokesman for the whole sector. It makes it also hard to put on instruments in a co-ordinated way. Enterprises do not optimally learn from each other's experiences because results do not trickle down.

What is true for the tourism industry in general is even truer for the smaller tourist entrepreneurs. For them, especially a more coherent and efficiently functioning network could be very advantageous. In Costa Rica (but also in the Netherlands) small-scale entrepreneurs come across all sorts of problems, like a lack of consistent and supportive policies, deficiencies in knowledge and expertise, shortage of money and a lack of credit facilities (van der Duim, 1997).

The traffic sector takes a somewhat distinct position. Generally, it is well organised and includes a limited number of large companies. This sector is therefore easier to address than the rest of the industry, and for many of the companies involved, image is an important topic. KLM, the Royal Dutch Airline, for example, is seriously working on environmental issues.

Research Institutes

A key constraint to policy reform is that national decision makers often lack the information they need to determine which policies support the Convention's objectives, which policies should be changed, and which new policies are needed. Policy research provides this information and can assist all stakeholders.

Assessment tools are especially functional when dealing with uncertainties. Based on the policy life cycle, some assessment tools can be discerned (RMNO, 1995: 78):

- ❖ Fundamental, indicative, strategic research aimed at getting general insight in the phenomena and processes. This is mainly relevant in the first phases of the policy life cycle, when problems are not yet well defined. Examples are scenario-studies and other forms of predictive research.
- ❖ Strategic research aimed at getting insight in specific problems. Here several technology assessment methods and techniques are applied.
- ❖ Applied research aimed at the assessment of possible solutions for a problem. Examples are test- and demonstration projects.
- ❖ Direct, policy supporting research, which could support the phases of problem solving and the implementation of a policy. An example is the

Environmental Impact Assessment (EIA), which compares different alternatives.

- ❖ Evaluative research that can support policy implementation. Examples are monitoring and registration.

Article 12 of the Convention on Biological Diversity: Research and Training:

The Contracting Parties, taking into account the special needs of developing countries, shall:

- Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries;
- Promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, inter alia, in accordance with decisions of the Conference of the Parties taken in consequence of recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice; and
- In keeping with the provisions of Articles 16, 18 and 20, promote and co-operate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.

source: <http://www.biodiv.org/convtext/cbd0013.htm>

For the execution of these studies, several research organisations are in place. In the Netherlands for example the Universities of Leiden and Wageningen, CREM, and National Councils like RMNO and NRLO are or have been undertaking relevant studies. In Costa Rica organisations like the Universities UNA and UCR, INCAE, the Organizacion Estudios Tropicales (OTS) and the National Biodiversity Institute (INBio) are worth mentioning. The latter is particularly relevant and has a special position (see box on the next page).

Tourists

Finally, tourists are a crucial group in several ways.

Firstly, they are the primary target-group of the tourist industry. If any sector of industry feels that consumers will not buy a product or service harmful to biodiversity, attempts will be made to improve their product. Presently, only a small part of the market sector consciously displays such green buying behaviour. In many cases, considerations about the environment or biodiversity do not play a conscious role; in some cases, it may play a minor role. In that case, hallmarks will not be the most effective instrument.

INBio

INBio is a private, non – profit organisation, created in 1989 by government initiative. The institution works under the premise that a tropical country will be able to conserve a major portion of its wild biodiversity if this biodiversity generates enough intellectual and economic benefits to make up for its maintenance. INBio and MINAE established a collaborative agreement that allows INBio, within the existing legal framework, to carry out the processes of inventory, biodiversity prospecting, and management and distribution of Costa Rican biodiversity information. INBio is organized into five integrated programs developed in close alliance and collaboration with the National System of Conservation Areas (SINAC). INBio actively participates in the design of sustainable development national policies through its leadership in the Advisory Commission on Biodiversity (COABIO) that provides consultation and recommendation to the National System for Sustainable Development (SINADES).

Tourism related activities of INBio are:

- ❖ Their participation in this tourism Fair Tourism related EXPOTUR with a permanent stand, where it provides information on Costa Rica's biological characteristics and importance, and addresses directly to tourism wholesalers through meetings with them;
- ❖ Publications: some of INBIO's publications are within the most used by tourism professionals and tourists in Costa Rica. These include: the spanish version of Birds of Costa Rica, Trees of the Osa Península and their books on Costarican butterflies;
- ❖ INBioparque: the most direct incursion of INBio in tourism is the biological park, named INBioparque due to open February 2000. Five hectares, next to INBio's headquarters, are designed to this project, where living samples of Costa Rica's native ecosystems will exhibit: tropical rain forest, tropical dry forest, the Central Valley native forest, and a pond with aquatic plants and insects. Through interpreted trails, the public will have the opportunity to learn about these ecosystems' biodiversity in the company of bilingual nature guides trained by INBio. The exhibits will also show Costa Rica's efforts to conserve its biodiversity through the establishment of protected areas, such as national parks and biological reserves. After seeing these exhibits, the public will be encouraged to visit these important areas. As examples of sustainable use of biodiversity, visitors will also learn about medicinal, aromatic, and ornamental plants, fruit trees, and agricultural products. The Central American Bank for Economical Integration lended around 7 million dollars to INBio for this project.

Mostly, people only buy 'green' if it corresponds to some of the other demands they place on (holiday-related) products; convenience, habit, distinction, price etc. tend to be more important indicators of purchasing behaviour. Knowledge of the factors that influence buying behaviour can be used to 'steer' it in a 'greener' direction. Further, it is important to know that impacts on biodiversity are related to some general characteristics: higher income groups, for example (groups potentially able to travel to Costa Rica) use more energy, drive more cars and disproportionately affect

the environment during their holidays; they travel more frequently, over longer distances and prefer travel by planes or automobiles (SCP, 1999).

Secondly, tourists not only 'use' tourism products, they also produce tourism themselves (see section 1.3 and 2.1). Their behaviour importantly and directly affects biodiversity. Improving the 'discipline' can be important, for example for visitors to nature parks. A common difficulty facing environmental policy is that much of the behaviour of visitors is based on habits. The choice of whether or not to go to work by car is not made consciously every morning (Elands et al., 1996). The same is true for throwing empty cans or candy wrappers on the street, out of bus windows or into litter bins. Habits are particularly difficult to change. A positive aspect of tourism, in this respect, is that many (though not all) choices are *not* habitual, but yet consciously made. Tourism is not an everyday activity and tourist behaviour is less directed by everyday routine. This presents opportunities to include environmental considerations that may influence or change visitor behaviour.

Generally speaking, it is important to realise that biodiversity is a collective good. Individual short-term interests may collide with common long-term interests. This discord between individual and common interests is a social dilemma. The extent to which this dilemma plays a role differs from one culture to another. Interventions must account for this dilemma, which means that chances for success are much greater if support for common goals (i.e. conservation of biodiversity) serve individual interests as well (i.e. improve holiday quality, more economical, more convenience etc.).

Tourists, just as the tourist industry, are a very diverse and not well organised group.

An actor oriented approach

This overview shows that many different types of actors are involved. When trying to intervene in the relationship between tourism and biodiversity, the stakes and positions of all relevant actors should be considered, as well as the relationships between them. Interventions well adjusted to the general operational procedures or goals of the actors involved will be easier to implement, for instance, when tourists can continue planning their trip as usual, when interventions on behalf of biodiversity are economically sound, if they fit the corporate identity, etc.

For each intervention, a more detailed analysis of the whole network of actors involved will increase the feasibility of the intervention. For each actor, such information as their goals, their attitude towards tourism and biodiversity, their relation with other actors and their instruments (opportunities to exert control over resources or other actors) should be

gathered. From the point of view of effectiveness, the most powerful actors (those who can veto the proposed intervention or that can seriously hamper the process) should be involved. From the point of view of legitimacy, special attention should also be given to strengthening the position of the less powerful actors.

3.3 effectiveness of interventions: instruments

Interventions aimed to manage the relation between tourism and biodiversity are diverse and vary in their effectiveness and acceptability. According to the Netherlands Scientific Council for Government Policy (WRR, 1992) the central problems we are facing are the subordinate position of environmental problems in general, and biodiversity related problems more specifically, in the decision making processes of producers and consumers.

For example, in a recent Dutch survey (see Van Egmond, 1999), 47% of the tourists stated they were prepared to travel to destinations closer to the Netherlands, if that would serve environmental purposes. Meanwhile, their most preferred destinations were the USA, Canada, Australia, New Zealand, Indonesia and the Caribbean. Thus, there still exists an enormous gap between verbal intention and action. Generally speaking, environmental empathy among the Dutch is high. However, this does not always result in environmental friendly behaviour. Only when there are little costs (e.g. money, time, effort) involved or when the behaviour has a high token value, are people willing to change their behaviour. One is less inclined to change behaviour when it is not as easy or when freedom of movement is at stake, such as going on holiday wherever you wish (SCP, 1999).

More or less the same applies to the tourism industry. Generally speaking, the tourism industry is reluctant to play a pro-active role, despite many programmes and projects, in the Netherlands as well as in Costa Rica. As Mowforth and Munt (1998: 221) claim: "*the tourism business community is much the same as other sectors of business in its invocation of 'business realities' in order to justify or excuse its resistance to change and to external influences*". The question remains whether or not techniques used in the industry such as codes of conduct, hallmarks or environmental auditing are cosmetic and trivial or genuinely change the attitude and environmental impact of the tourism industry.

In essence, the same question pertains to governmental interventions. As the Bundesamt für Naturschutz (1997: 10) affirms: "*The strategies developed so far are not very precise and have only little binding force, which is*

illustrated by the fact that there are many recommendations but no legally binding agreements addressing explicitly to the relationship between biodiversity and tourism. Most advanced in this respect are national laws and regulations in a number of destination countries; however, often implementation and effective control measures are missing, particularly in developing countries".

Often, the government is regarded as the actor that should take the lead for interventions beneficial for biodiversity. In principle, however, any actor can intervene, though the instruments will be different. To determine interventions most applicable in a given situation will depend on the problem addressed, the scope of the problem, the target group and the mechanism through which they intend to 'guide'. Generally, a distinction can be made between interventions:

- ❖ at a international, national or regional-local level; and
- ❖ from governmental, non-governmental and private actors.

Importantly, the choice of instruments is often not (or not only) based on considerations about the effectiveness. Instruments are to a limited extent chosen as best measures to achieve certain policy objectives. Instruments are partially chosen based on tradition or fashionable considerations, in light of international affairs, based on contemporary expertise and institutions and/or because of expected divisional effects or flexibility. Political considerations are also of great influence. Instruments can help strengthen the position of politicians or policies, or of industries for that matter. Seen in this light, the selection of instruments is subject to the same aspects as those mentioned as relevant for setting priorities for intervention (legitimacy, feasibility, effectiveness) (Glasbergen, 1994). In this section we focus on effectiveness.

Instruments by type of force

A main characterisation of instruments is based on the type of force that they impose (see WRR, 1992; Sprengers et.al., 1995):

- ❖ *social instruments* (like extension, education, demonstration, exhibition aiming at changing behaviour of specific target groups);
- ❖ *economic instruments* (like taxes, subsidies, financial compensation etc. etc.);
- ❖ *regulatory instruments* (either *enforced* - by law - or *voluntarily* -based on conventions or mutual agreement);

To choose the correct instruments to apply depends on the actor (only the government can impose laws, for example). In addition, the effectiveness of different types of instruments differs in various situations. In the textbox on page 44, the appropriateness of different types of social instruments is presented.

	nature of influence	explanation
persuasive education	convincing others of the seriousness of a collective problem and the necessity to change inappropriate behaviour A into appropriate behaviour B	The educator clearly sees the problem, whose responsibility it is and which alternatives present solutions. The target group is not yet motivated to change behaviour and has to be convinced via persuasive argument. The attempt to influence behaviour is legitimised, because of the collective problems involved.
advising education	influencing of the availability of information of behavioural alternatives	The target group is already convinced of the seriousness of the problem and the necessity to change behaviour, yet does not know how and therefore looks for information about environmentally friendly alternatives.
stimulation of learning processes	stimulating people's search for solutions	The target group is already convinced of the seriousness of the problem and the necessity to change behaviour. Because of the complexity of the problem involved, the educator cannot give straight advice on how to act. The educator helps the target group to look for solutions. It is not possible to formulate specific behavioural goals.

source: van Meegeren, 1995: 18 (translation)

One- or two-sided transactions

Some instruments are one-sided meaning one party enforces their will onto others (for example, laws and regulations enforced by the government). Other instruments come about through co-operation or negotiation between different parties and are referred to as two-sided (like covenants and joint implementation).

One-sided interventions will only be effective, if the actor imposing them can effectively enforce the consequences on the projected target group. Thus, one-sided economic instruments will often only be effective in the context of a (near) monopoly. A one-sided decision such as the Dutch government placing a levy on kerosene will (arguably) only lead to relocating air traffic to neighbouring countries, thus not benefiting the environment. Likewise, one-sided regulatory instruments such as laws are only effective when effectively controlled and effective regulations exist (see EIA in chapter 4).

In cases where control cannot be effectively carried out, or when the identification or measurement of environmental unfriendly activities are difficult, two-sided instruments are preferable. A precondition for two-sided regulation is public support. This can lead to an impasse, in case such support is not available. In such a situation, one-sided activities can also

serve as a symbol to indicate the relevance of a particular value for the actor involved. It may be one of the ways to place environmental interests more firmly on the agenda.

From the point of view of sustainability, two-sided or 'participative' strategies are usually preferred (e.g. van der Duim, 1997; Korthals, 1994). It is argued that such an approach is more efficient, more legitimate and leads to better solutions (i.e. is more effective) than one-sided approaches. Participation is an important theme in most activities that take place as a follow-up to the Rio Conference. 'Local agenda 21' activities and the Bilateral Agreements for Sustainable Development are good examples (see appendix 5). In other fields, actor-oriented approaches are currently 'in fashion' as well. A further clarification of participative approaches is given in the textbox on the following page.

Instruments at source or dealing with the effects

Another question relates to the choice between instruments at source or instruments dealing with effects. Basically instruments dealing with effects alter the environmental quality without producers and consumers having to change their behaviour. Instruments dealing with effects are characterised by retrieval, compensation, management and strengthening of the tolerance level. Such instruments usually not include a change in attitude and can often be achieved through technical means.

By contrast, instruments at source usually focus on a change of this behaviour. Examples of instruments at source are education, examples of good practice, agreements, covenants, subsidies, regulating levies, direct regulation through levying permits, commitments concerning the exchange of information, responsibility and good practice (Glasbergen, 1994). Examples specifically concerning tourism are restriction of accessibility of tourist during mating season and zoning (including buffer zones and connection zones).

Generally speaking, instruments at source are preferred above instruments dealing with effects, because (Sprengers et.al., 1995: 61):

- ❖ at source the responsibility for the consequences is clear;
- ❖ at source the controllability is the greatest;
- ❖ by one source the generation of more effects is possible;
- ❖ uncertainties can exist about the cause-effect chain;
- ❖ effects can be irreversible; and
- ❖ intervention at the source is often less costly.

Participation of stakeholders in decision-making

Ensuring participation is considered to have a number of advantages over hierarchical ('top-down') management and policy-making strategies. These advantages are related to three different types of arguments: arguments relating to *efficiency*, to *quality* and to *legitimacy* (Caalders et.al., 1999).

Participation stimulates the *efficiency* of decision-making processes, because it creates support for the intended interventions. The first phases in the process may take more time, because more stakeholders need to be consulted. But this 'loss' of time during the preparation phase, will eventually lead to a gain in the implementation phase. Carrying out the proposed measures can take place much faster, as all relevant parties have committed themselves. Also, future disputes are less likely to arise because parties have become acquainted to one another and will more easily consult each other in future situations. Meanwhile, because parties are more closely involved in discussions and in the decision-making process, it is likely that they will internalise the policy goals (e.g. displaying biodiversity friendly behaviour). The continuing effects of the policy will therefore be bigger. The argument of efficiency is an important reason for participation of stakeholders in national and international politics (e.g. in the Convention on Biological Diversity and in tourism-biodiversity policy in the Dutch national context).

The *quality* of the process is improved, because essential aspects are less likely to be overlooked. As more parties are included in the process, more know-how and creativity is mobilised. In addition, room for emotions and feelings exists, thus different types of qualities are considered. Local parties usually have most detailed knowledge on the local situation. Therefore, they are in an excellent position to estimate the effects of general measures in the specific context. Generally, the parties involved should together cover the whole range of related aspects. The argument of quality is also important with in the light of discussions on development policies. Many programmes aimed at the Third World have not reached the intended goals, because of differences in culture and misunderstandings about goals and expectations. Solutions offered by 'Northern' countries were aimed at problems, as those countries perceived them. These solutions were often not tailored to the expectations and needs of the receiving parties (Bunders et.al., 1996).

Last but not least, participation of stakeholders can create a more *legitimate* process. All those having an interest in the matter at hand also have a say in it. This means the chance for a true democratic decision-making process is enlarged and, ideally, all interests will be considered (see also section 3.1).

Though participative methods are better suited to deal with tourism and biodiversity, a number of points need to be addressed carefully.

- ❖ Building up sustainable relationships between the actors in a network is crucial. Attention should be paid to the key-interests of all actors involved so actors can feel 'safe' and trust on another.
- ❖ The process should be open to all relevant parties. All the important actors should be involved in the decision-making process. Problems related to efficiency arise when actors in a position to block this process are left out.
- ❖ Problems related to legitimacy arise when less powerful stakeholders are banned. Special attention is needed for the position of less powerful groups in participative processes. If it is intended to give them an equally strong voice, they should be provided with the opportunity to generate information and have access to expert-knowledge.
- ❖ It is generally difficult in participative approaches to find representatives of 'diffuse' interest groups, such as tourists. In most regions, the tourism industry is also not organised in an overarching platform and lacks a central spokesperson (unlike, for example, the agricultural sector that is generally very well organised). This makes it more complicated to come to agreements shared by a large part of the industry.
- ❖ The concept of biodiversity might be too abstract to use in situations where non-experts in this field (e.g. representatives the local population) are participating. It may be necessary to use a more general notion like 'nature' or 'landscape'.
- ❖ The process should be goal-oriented (though this goal can change during the process), for otherwise the parties involved will feel they are wasting their time. If such occurs, It will become very hard to involve them again in future situations. Moreover, the aim should not be to create consensus, but to take effective measures to protect biodiversity.

Instruments focusing on effects, on the other hand, are often less controversial and easier to implement, especially if they do not demand a fundamental change in attitude. They do not question the activity itself, but focus on the negative impacts it produces. From the point of view of feasibility, these instruments often score higher.

The selection and structure of target groups

In the selection of instruments, the structure of target groups should be acknowledged. Some target groups are much easier to address than others. For instance, one could choose to address tour operators or the Netherlands Federation of Travel Agencies (ANVR) instead of separate travel agencies or even tourists; in a similar way, hotel associations are easier to address than individual hotel owners. NatourData® is one example of this strategy, which targets tour operators and travel agencies, instead of individual tourists (see text box below).

NatourData®

In 1997 the Netherlands Committee for IUCN, The World Conservation Union, has started a feasibility study for the set up of an information system consisting of objective information on the tourist value of nature: NatourData®. The primary target group of Natourdata® is tour operators and travel agencies. The information should substantiate the work of people working at travel agencies and should be input for travel brochures. Costa Rica has been one of the three countries in which extensive information has been gathered on the feasibility of this project. Organisations like ANAI, IUCN and ICT have been consulted.

source: Cosijn et.al. (1999)

A related issue is the 'costs' target groups will face, which express the technical possibilities of and psychological resistance against change of behaviour (see WRR, 1995).

Tailoring instruments and coping with uncertainty

The choice of appropriate instruments relies on the characteristics of the problem at hand, the level of scale and the number and type of actors involved. No one single best solution exists; the strategy, the type of intervention and the instruments applied are highly interrelated.

In each case, however, it is important to note that one has to cope with uncertainty: not only because of a lack of knowledge concerning the relationships between biodiversity and tourism, but also of the impact of interventions and the associated instruments.

Generally speaking, there are three ways to manage uncertainties: *reduction, coping with or neglecting* (Sprengers et.al., 1995). Reduction of uncertainty means that research or pilot-projects are proposed in order to increase awareness and knowledge. Coping with uncertainty implies that uncertainty is accepted as a given fact. Associated action can include taking highly precautionary measures to avoid impacts or non-intervention for the time being. Neglecting uncertainties means they are not considered in policy development. It may be decided to allow tourist activities while monitoring its impacts at the same time. The most appropriate intervention depends on a number of factors, e.g. time available prior to decision deadline, the type of problem that should be dealt with, the economic and social risks involved etc.

The relationship between these three strategies and the various instruments defined earlier is as follows:

<i>Instruments</i>	<i>Reduction</i>	<i>Coping with</i>	<i>Neglecting</i>
Social instruments	X	X	X
Financial instruments		X	
Regulatory (voluntarily)		X	X
Regulatory (enforced)		X	

adapted from Sprengers et.al., 1995: 80

In each case, social instruments are regarded as useful. This links up with the tendency to increase stakeholder participation in policy-making. As previously mentioned (see page 46), participation can serve the quality, legitimacy and efficiency of decision-making. In appendix 2, an example of a participatory strategy for intervention on a local scale, in a clearly defined area (Nature Park) is described.

4 Current interventions and perspectives

The relationship between tourism and biodiversity is a topical issue. It receives a lot of attention in policies both at a national and at an international level. Much has been achieved in terms of international agreements, mechanisms for funding and the creation of co-operation and co-ordination networks (in which governments, NGO's and a number of representatives of the tourism industry are closely working together). Meanwhile, it is questionable to what extent the commitments and agreements by interest groups at these levels trickle down to tourism practice.

Emphasis has so far been on: instruments aimed at changing tourist behaviour and practices of entrepreneurs, by means of communication and free of engagement, with a major interest in the conservation and sustainable use of biodiversity and a minor role for equal sharing of benefits.

In this chapter we explore the opportunities for instruments of a more binding and compulsory nature. We also search for ways to enlarge the involvement of small-scale local entrepreneurs.

4.1 Overview and evaluation of interventions

Figure 4.1. presents an overview of the various interventions relevant to the Netherlands / Costa Rica¹⁴. The scheme differentiates between three levels of scale (international, national and regional/local). These scales represent the level at which instruments are placed and at which the actors operate (not necessarily the level at which measures are aimed).

Only those actors that actively intervene and develop instruments for tourism and the conservation or improvement of biodiversity are mentioned. Tourists are not included in the scheme because they generally intervene only with regard to their own holiday. The instruments they possess (to buy or not buy a certain product; and the influence on other tourists via persuasion and information) are of course highly relevant, yet limited in both time and space. Organisations that (partially) represent the interests of tourists (e.g. Consumentenbond, ANWB) are classified as NGO's.

¹⁴ The list presents instruments found in the literature and on internet, and those mentioned in the interviews in Costa Rica. Participants of the September workshop completed the figure (see appendix 4 for a list of participants).

figure 4.1 Overview of current interventions tourism/biodiversity

		International	National	Regional/Local
Government	<i>Regulatory instruments</i>	<ul style="list-style-type: none"> • Convention on Biological Diversity (CBD) • Commission on Sustainable Development (CSD) • Bilateral Sustainable Development Agreement • Other conventions and agreements 	<ul style="list-style-type: none"> • Spatial laws and regulations • National Plans on Biodiversity/ Environment/ Tourism/ Spatial Planning • Direction of protected areas • EIA/laws 	<ul style="list-style-type: none"> • Spatial planning • Resource Management • Permits
	<i>Economic instruments</i>	<ul style="list-style-type: none"> • Tradable Shares (Debt-for-Nature-Swaps) • Eco-taxes • Global Environment Facility (GEF) 	<ul style="list-style-type: none"> • Use rights • (Eco)Taxes • Charge Systems • Subsidies and grants 	<ul style="list-style-type: none"> • Entry/user fees • PACTo: Programa de Conservacion Llanuras de Tortuguero
	<i>Social instruments</i>	<ul style="list-style-type: none"> • CSD-conventions • WTO-OMT 'Global Code of Ethics for Tourism' 	<ul style="list-style-type: none"> • Conventions • Public Information Campaigns • Education and training 	<ul style="list-style-type: none"> • Environmental education • Visitors centres • Zoning • Demonstration Projects
NGO's	<i>Social Instruments</i>	<ul style="list-style-type: none"> • Conventions 	<ul style="list-style-type: none"> • Guides ('wegwijzers' of NCDO) • Pilot Project NatourData (IUCN) • Public Information Campaigns • Partnership Projects 	<ul style="list-style-type: none"> • Visitors centres • Extension • Environmental education • Zoning
	<i>Economic instruments</i>	<ul style="list-style-type: none"> • Funds 	<ul style="list-style-type: none"> • Funds 	<ul style="list-style-type: none"> • Entry/user fees
Private Organisations/ Tourism Industry	<i>Social Instruments</i>	<ul style="list-style-type: none"> • Agenda 21 for Tourism & Travel Industry • Certification / Eco-labelling / Hallmarks / Contests / Awards / Model Projects • Policy plans of organisations such as IFTO/IATA etc. • Codes of conduct 	<ul style="list-style-type: none"> • Training of staff members/guides etc. • Environmental Management Systems (for example PGM in the Netherlands) • Alternative transport-systems • Development of information (& systems) to inform tourists: Toeristiek/ NatourData, brochures, video's etc • Hallmarks 	<ul style="list-style-type: none"> • Training of staff members/guides etc. • Environmental management systems • Informing tourists
	<i>Economic Instruments</i>	<ul style="list-style-type: none"> • Price policy • Investment policies 	<ul style="list-style-type: none"> • Sponsoring nature • Sponsoring nature conservation organisations • Price policy • Investment policies 	<ul style="list-style-type: none"> • Sponsoring nature • Sponsoring nature conservation organisations • Price policy • Investment policies

To characterise the various instrument types, we use the typology of social, economic and regulative instruments (see section 3.3).

Appendix 5 includes a more detailed description of current interventions at international, national and regional scales. Examples of interventions by governments, NGO's and the tourism industry are presented.

Evaluation of interventions so far¹⁵

As the overview shows, the tourism-biodiversity relationship is a topical issue receiving attention at all scale levels. Different types of interventions by various actors are currently undertaken. However, not all interventions mentioned in the scheme are given equal weight in common field practice.

Since it is a relatively new policy field, much attention has been directed towards involving crucial actors in policy development and to make them aware of the need to address the issue of biodiversity in relation to tourism. This has succeeded at both the international and national level, as seen in a number of attempts to self-regulate the tourism industry. It is not clear, however, to what extent the commitments and agreements by interest groups at these levels trickle down to tourism practice. Our impression is that much of the attention given to biodiversity in relation to tourism is 'stuck' on the national level and at those organisations defending the interests of the tourism industry.

Meanwhile, we observed that many instruments developed are non-compulsory and free of engagement. Instruments aimed to change the behaviour of tourists are mainly communicative; instruments aimed at the tourism industry focus on transferring information and knowledge and creating of codes of conduct. Legally binding and compulsory instruments receive less attention in the discussion. This is normal considering the fact that it is a new policy field which should first create support among crucial actors, generate knowledge in order to be able to set priorities and disseminate information to the general public to increase awareness. These issues (i.e generation of knowledge, communication and increasing awareness) certainly deserve continued attention. It is important, however, to explore the possibilities of other types of instruments as well.

¹⁵ The aim of this study has not been to give a full overview of all activities undertaken at all levels. Nevertheless we provide a general impression and evaluation of current practice. Our statements are based not only on the literature review and review of the practices of crucial actors; we also discussed our findings with experts at workshops in the Netherlands and through interviews in Costa Rica.

Figure 4.2 indicates which instruments could be used in relation to the most urgent problems identified (see paragraph 2.4). Many of the instruments mentioned are not new. For different reasons some do not function optimally at the moment or do not receive the attention they deserve in the discussion. We will examine these instruments and the opportunities each offers in sections 4.2 to 4.5.

figure 4.2 Overview of most urgent problem fields and opportunities for regulatory and economic instruments

		Principal actors	Possible instruments
Transport	<ul style="list-style-type: none"> Flying 	<ul style="list-style-type: none"> Governments Airlines 	<ul style="list-style-type: none"> VAT on tickets Levy on kerosene
Accommodation	<ul style="list-style-type: none"> Construction of hotels/ condominiums etc. Lack of systems for garbage disposal, sewage treatment etc. 	<ul style="list-style-type: none"> Governments Hotel industry / Property developers 	<ul style="list-style-type: none"> Spatial planning and Laws Environmental Impact Assessment Environmental Management
Activities	<ul style="list-style-type: none"> Nature oriented recreation Watersports 	<ul style="list-style-type: none"> Management of Natural areas/Parks 	<ul style="list-style-type: none"> Zoning

In addition, we present two other issues in this chapter that should receive priority in future policy. The first relates to the issue of legitimacy (paragraph 3.1). From this perspective, the position of small local entrepreneurs deserves attention. The goal of equal sharing is addressed in many agreements and conventions and has received much attention in the discussion of sustainable development. In the discussion on biodiversity, attention for equal sharing is less prone. At the same time, a number of activities that are being developed as a follow up of these agreements can have a detrimental effect on the position of small entrepreneurs.

Another important issue is that only a very small part of the discussion trickles down to the industry, especially to the small-scale entrepreneurs. Biodiversity is not an issue considered among most entrepreneurs. To become a more important issue for them, it should relate more to their daily practice. This indicates the need to link activities currently undertaken at the international and national levels to the local level.

figure 4.3 Two important issues, principle related actors and possible instruments

Issue	Principal actors	Principle instruments
Fair and equitable sharing: the position of small-scale entrepreneurs	<ul style="list-style-type: none"> • National governments • Intermediary organisations 	<ul style="list-style-type: none"> • consistent and supportive tourism policy • credit facilities and agreements • training and extension programmes attuned to needs and daily practice • regional knowledge centres
'Linking the global and the local'	<ul style="list-style-type: none"> • International agencies and national governments • Tour operators • NGO's • (New) organisations of small-scale entrepreneurs 	<ul style="list-style-type: none"> • 'twinning' of areas • demonstration and pilot projects • bridge actors or gatekeepers

These two considerations are summarised in figure 4.3. Some possibilities for instruments to use for addressing these issues are mentioned. We will discuss the possibilities to achieve these goals in sections 4.6 and 4.7.

4.2 Ecotax

Air transport is regarded as highly detrimental to the environment. As was indicated in section 2.4, air transport contributes about 3,5% to global climate change. Estimates suggest this percentage will increase to 5 or even 10% (in case of excessive growth of air transport) (Volkskrant, 1999). Studies indicate that interventions contributing to a decline in air transport would significantly add to the quality of the environment. Possibilities to prevent further increase of harmful impacts of air transport are:

- ❖ construction of cleaner and more fuel-efficient planes;
- ❖ to substitute flying by other means of transport, especially on medium range distances (in Europe); and
- ❖ reducing air transport at a global scale via a tax system consisting of a VAT-tax on tickets and an excise tax levy on kerosene.

Eco-tax on air transport could encourage the development of alternative means of transport in a European context. A levy on kerosene could stimulate the construction of more fuel-efficient planes.

Facts

The amount of energy needed by one Dutch tourist making a roundtrip to and in Costa Rica is by and large equivalent to the amount of energy needed for heating and consumption of warm water for one whole year by an average Dutch family of three persons. About 90% of the energy consumption is related to flying to and from Costa Rica, the rest to accommodation and transport in Costa Rica.

derived from Schmidt and Postma (1995) and Seeters (1995).

According to the Dutch 'Centre for Saving Energy and Clean Technology'¹⁶, a European introduction of this tax system would have significant positive effects on the environment without extensively affecting airline companies (Volkskrant, 1998). A charge of 53 cents would increase the price of a ticket by 20% and would subsequently reduce the amount of regular flights by 10% and charter flights by 20%. Taking all passengers into account (businessmen, tourists etc.) the total reduction is estimated at about 8% (Hoogelander, 1994).

In 1994 Stichting Milieudefensie (Friends of the Earth Netherlands) campaigned to levy an excise tax on kerosene by bringing a plane carrying members of the European Parliament to a standstill. These and other actions have helped to place the introduction of a tax system on the European agenda. However, many reasons exist why the introduction of such a tax world-wide is difficult. Those countries willing to consider the introduction of a tax system point out the need to implement measures on an international scale. Introduction by separate countries would merely

Climate Fund and air traffic

Within the framework of the BSDA, Ecooperation, Fundecooperacion and their sister organisations have established a Climate Fund aimed at an equitable distribution of limited emission space. The basic idea is that each world citizen has an equal right to use the atmosphere. These rights will be allocated to countries on the basis of population size. Countries with more emissions than rights should provide financial compensation to countries with less emissions than rights. Implementation of this idea in the tourism sector is still subject of study.

Meanwhile, the principle will be introduced within the context of the BSDA. Starting in 1999, Ecooperation will require from any Dutch organisations using air transport in connection with the BSDA, that they pay a tax from their own resources. The money will be placed at the disposal of the Climate Fund for transfer to Costa Rica, Bhutan and Benin.

¹⁶ Nederlands Centrum voor Energiebesparing en Schone Technologie

lead to a comparative disadvantage for the nations involved and lead to relocation to neighbouring countries. This would not create much positive environmental effects. In the USA, government involvement and taxes generally meet much suspicion and the resistance against levies and taxes on flying is strong. However, many developing countries are also not in favour of such instruments. From their perspective, the cheaper it is for tourists to fly to faraway destinations, the more tourist dollars end up in the national economy. From the point of view of equal sharing, this instrument therefor needs careful consideration.

Notwithstanding complications, the Dutch government intends to keep this issue on the international agenda.

4.3 Spatial planning and environmental impact assessment

An important instrument for controlling tourism development, especially with respect to tourism and biodiversity, is a spatial planning system. Such a system should be accompanied by effective control of the compliance of these laws. Effects of planning should be monitored. Without 'flanking' measures, a planning system is just a matter of form.

In the Netherlands a detailed planning system, accompanied by spatial laws, is existing and running. Issues relating to nature and biodiversity have increasingly become integrated into this system. In the 1980's Environmental Impact Assessment ('MER') has become obligatory for larger projects (such as the construction of a new road).

Even though the Dutch system is regarded as one of the most elaborate in the world, it has become increasingly clear that paper plans alone cannot steer developments. As a result, two changes in the attitude towards planning efforts can be discerned. Firstly, it is realised that planning and government policy cannot row against the tide of social and economic developments. The ongoing stream can be adjusted (but not turned around) if there is knowledge on the forces that steer social and economic developments. When considered in the tourism context, knowledge of what drives tourists (see section 3.1) and entrepreneurs becomes highly relevant. Secondly, related to this, it is increasingly realised that the government is in many cases dependent on other actors to reach planning goals. In such cases, it is considered indispensable to involve relevant actors in the planning process from the start. The advantages of such participative planning efforts are described in the text box on page 46.

Specifically for the MER, it has been realised that this instrument does not function as well as it could if it is only used as an instrument to perform a last check on environmental effects. At that point, all plans have been prepared and all those involved in the project have come to agreements. It will be very difficult to change plans at that stage in the planning process. If environmental quality is to be taken into account, it should be intergrated in the process at a much earlier stage.

However, notwithstanding the fact that Dutch spatial planning has not always functioned optimally and emphasis has sometimes been put on its failures, it has certainly contributed much to the current spatial layout of the Netherlands.

In Costa Rica an elaborate territorial planning system is not yet operational (see van Wijk, 1998), except in the Marine Zone and the so-called Plan Regulador for communities.

The Maritime Zone, a 200-meter wide strip of land running parallel along the coastline, is owned by the Costa Rican government. The first 50 metres of tideland is open to the public, thus private possession or occupation is prohibited. The remaining 150 meters further inland are zoned as a restricted zone, for which exceptions are possible. If the ICT has declared a beach of interest for tourism, which is the case for most beaches, a Plan Regulador (regulative plan) is necessary. If not, it only needs a Land Use

Tambor Project

A subsidiary of the Barcelo Group, a Spanish holiday chain, closed a contract with the Costa Rican government, ICT, Instituto Costarricense de Electricidad (ICE) and the Instituto Mixto Ayuda Social (IMAS). In Tambor on the Pacific coast peninsula of Nicoya, a 400-room hotel complex was going to be built within 50 metres of the high water mark. In so doing they stripped a hillside, filled in a swamp, extracted sand from a nearby river and quarried stone from another hillside, all without the necessary building permits from the Ministries of Housing, Health, Public Works and Transport and Natural Resources. Additionally, it has been reported that white sand was removed from a nearby beach and used to cover the original black sand beach at the complex.

Two environmental organisations (Asociacion Costarricense para la Conservacion de la Naturaleza (ASCONA) and Asociacion Ambientalista y Naturalista Cuaremarpo de Montezuma (Cuaremarpo), criticised the Tambor Project after being alarmed by locals of Tambor, Paquera and Montezuma. They stated that the Barcelo Group had acquired no building permit; that the law considering the local strip, which doesn't allow building within 50 metres of the coastline (Ley sobre Zona Maritimo Terrestre), was violated; and that no EIA was conducted. Despite the criticism, the hotel was built and it opened in 1992. Recently, it has been accused of depositing its sewage in the Rio Panica.

source: Hagenaars (1995) and Mowforth and Munt (1998)

Plan (Plan del Uso del Suelo), which regulates the use of an area at the regional level. For the execution of mega projects, ICT requires a Master Plan.

However, despite the legal provisions much tourism development has taken place in the Maritime Zone without such a territorial plan. Again, by law every community should prepare a Plan Regulador, but this is more an exception than a rule (van Wijk, 1998).

In addition to these spatial plans, Costa Rica has an Environmental Impact Assessment (Evaluacion de Impacto Ambiental), an instrument comparable to the Dutch MER. This legal instrument identifies the possible effects or risks of planned private or public projects, works or activities, which may change or destroy elements of the environment. In the evaluation, the means of prevention, mitigation and/or compensation of those possible impacts are also identified. Since 1995, an EIA is required for certain tourism projects and activities. In 1997 SETENA pronounced that only tourism projects above a certain threshold value need a 'Preliminary EIA' (FEAP): projects with more than 400 m² or more than 10 rooms. The following tourism activities are distinguished:

- ❖ hotels, campgrounds and other tourism facilities;
- ❖ tourism fisheries;
- ❖ cable-railways;
- ❖ recreation centres; and
- ❖ masterplans for tourism exploitation.

In 1998 Van Wijk extensively studied the EIA in practice. It is believed that development of EIA in Costa Rica is going through the same stages it has in other countries. As experience grows, EIA will become accepted as an essential part of the tourism development process in stead of an add-on process. However, some problems have to be dealt with, for example:

Papagayo Project

The massive Papagayo Project includes the construction of 1,144 homes, 6,270 condo-hotel units, 6,584 hotel rooms, a shopping centre and a golf course. It forms a large part of the Costa Rican Institute of Tourism development of Culebra Bay on the Pacific Coast. The scheme is called 'Papagayo Eco-development', but despite planning efforts, the 'eco' seems to refer to the economic wealth it will generate for its investors rather than to the local ecology it will save.

The project has been criticised because a normal EIA procedure has never been conducted. The ICT permitted the continuation of the project, while the ICT is not formally equipped to do this; a 'Plan Maestro' was wrongly used as a replacement of the EIA; and the Ley sobre Zona Maritimo Terrestre has been violated.

source: Hagenaaers (1995) and Mowforth and Munt (1998).

- ❖ it is believed that the institutional context of EIA is adequate but its implementation in practice is criticised;
- ❖ without adequate territorial planning and concrete policy plans, EIA remains a band aid approach to mitigate the worst consequences of uncontrolled economic development;
- ❖ despite the legal requirements for public participation in the planning process, it remains a little used practice in reality.

4.4 Environmental management

Sound environmental management has become increasingly important for tourist entrepreneurs. Consumers, suppliers, financial institutions such as banks, nature conservation organisations, people living near tourist facilities and, of course, governmental agencies demand and expect this practice. There are at least five arguments for the tourism industry to improve environmental management (de Groene and Hafkamp, 1994):

- ❖ arguments related to the state of the environment; a quality environment as a value in itself or as a prerequisite to quality tourism products;
- ❖ strategic arguments, such as acceptance of the enterprise by the general public or to preventing one-sided binding regulations by governments;
- ❖ financial arguments, such as preventing financial sacrifices (claims, taxes, levying etc.) or reducing the costs of operational management;
- ❖ PR and marketing reasons, like maintaining a positive and reliable image; and
- ❖ legal grounds as a result of more or better monitoring of environmental laws and regulations.

However, sustainable use of tourist infrastructure (hotels, golf courses, roads, etc.) is a long-term commitment. It requires a continuous process of improvement. The aim of environmental management is to reduce the burden of the operational processes on the environment. Environmental criteria should be considered as an *"integral part of all management decisions, rather than an add-on element of existing programmes. Such integration means that all company activities, from marketing and sales through the maintenance and repairs, are effected by the environmental programme"* (WTTC, 1996).

Especially at the international and national level, many organisations have developed guidelines for environmental management in the tourism industry. We already mentioned Agenda 21 of the WTTC as an example (see also appendix 5). UNEP, together with the International Hotel

Association (IHA) and the International Hotels Environment Initiative (IHEI), have developed the 'Environmental Action Pack for Hotels' (UNEP, 1995b). National associations of hotels, restaurants, holiday camps and camping sites have developed similar guidelines.

An example of promising developments in the Netherlands is the environmental policy statement of Royal Dutch Airlines (KLM). This company has published a yearly environmental report since 1996, which has been praised by environmental organisations for its consistency. Another example is the fact that The Dutch Association of Tour operators and Travel Agents (ANVR) participates in the Initiative Group Tourism, Nature and the Environment, in which international as well as national projects are initiated and co-ordinated. A remarkable recent development was the appointment of a 'manager of sustainable tourism' by Travel Union Netherlands (TUI), by far the biggest tour operator in the Netherlands. Environmental auditing of hotels, providing environmental information in travel brochures, training of travel guides and exploration of the feasibility of a hallmark for sustainable tourism, are just a few of the projects to be executed (Van Asbeck, 1999). Especially these 'powerful' tour operators are able to execute business-to-business pressures in order to improve environmental performances. Nevertheless, at the same time, the ANVR advises their members to be realistic and to keep the competitive edge (see especially page 14 of ANVR, 1998).

The Dutch Association of Tour operators and Travel Agents (ANVR) published two policy plans on 'sustainable development', one in 1995 and one in 1998. In the plans all kinds of projects in the field of extension, research and pilot projects were initiated (ANVR, 1998). One of the most interesting pilot projects is the development of a so-called Product Oriented Environmental Management System (PMZ) for Dutch tour operators, in which also ideas focussing on 'integral chain management' will be tested. This PMZ has been tested at large tourist attractions in the Netherlands. Although the results were quite promising, main bottlenecks were the lack of (financial) incentives, lack of or inconsistencies of directives and regulation and the nature, volume and 'culture' of the organisations concerned (Visser, 1999). Although these attractions have a lot of visitors, they remain medium size businesses. For the small and medium size businesses lack of knowledge, resources and organisational capacity prevent implementation of environmental management. Though guidelines exist, it will still take a lot of effort before such measures will be applied at large scale. Especially the smaller and individual (i.e. that are not owned by a chain) companies are difficult to reach. Lessons may be learned from experiences with the initiatives to introduce environmental management in smaller companies that have been deployed in some cities (i.e. Utrecht, Amsterdam). These initiatives, that are not specifically aimed at the tourism industry, seem to work well, mainly because emphasise is on the economic benefits that can be reached by saving electricity, material etc. A number

Horizontes*

Horizontes, one of the biggest Costarican touroperators, is a good example of the way in which international discussions on tourism and biodiversity could be translated to national and regional levels. Horizontes promotes nature preservation through campaigns, donations and education. Horizontes has several biodiversity conservation programs:

- ❖ Land Conservation: three hectares of forest were bought in order to add protected forest to the buffer zone of Corcovado National Park.
- ❖ Financial contributions: Horizontes has donated an estimate of US\$ 25 000 in the past 10 years to local, regional and international NGO conservation efforts. In addition, educational programs have benefited from donations. Most contributions are directed to single species conservation. Besides donations, Horizontes also contributes financially to several conservation organisations through paying membership fees.
- ❖ Horizontes regularly organises tours to natural areas for community and social organisations. It also provides transportation services and volunteer staff time for several pro nature activities, as well as building and maintenance materials for the construction of facilities in protected areas.
- ❖ Donations by clients: an international tour operator working with Horizontes from 1987 until the mid-nineties incorporated a donation to rainforest conservation into their tour subscription fees. Another international tour operator sends yearly donations to the Park Ranger Fund / Neotropica Foundation for a current total of nearly US\$ 6000. A tour operator from the UK, has incorporated a \$25.00 per passenger donation to the Neotropica Foundation. Horizontes regularly contracts representatives of the Neotropica Foundation to give lectures for their educational travel programs. Some programs involve tree planting, the costs of which are built into the tour. Apart from nature, local communities also benefit: several programs involve community home stays and volunteer work such as painting schools (program buys the paints & brushes), providing classroom materials, doing beach clean-ups, improvement of community centres, etc.
- ❖ Prevention of environmental impacts: The Ecotourism Operator section of Horizontes' Company Profile states as tasks for the company:
 - to provide information on ecotourism as a conservation tool to a wide variety of target groups requesting advice and assistance;
 - to help create awareness of conservation and ecotourism issues;
 - to frequently speak at seminars and conferences on conservation and ecotourism and to participate in round table discussions on sustainable development;
 - to prevent overcrowding of tourism destination: Horizontes has always monitored areas at risk from overcrowding. At times, it has removed certain parks and reserves from its itineraries, co-operated to establish policies that limit visitor numbers, helped establish better management of parks (e.g. in Manuel Antonio, Monteverde, Carara and Tortuguero). In Monteverde, Horizontes was consulted by the community of Santa Elena about the establishment of a reserve (an alternative to the original reserve). It supported the strict limits on daily number of visitors that were set by the original Monteverde Cloud Forest Reserve; all its international tour operators and individual passengers were informed to understand the reason behind the limits. Horizontes supported visitor management in Carara by participating in planning meetings and providing salaries for extra guards also serving as guides for park visitors. For several years they did not include Manuel Antonio in any of the programs and restricted the number of tours to Tortuguero. Once visitor controls and visitation limits were being enforced, they started to return with tourists.
- ❖ Advocacy Campaigns: Horizontes has been active in questioning the appropriateness of mega beach resort projects in Costa Rica. As early as 1993 it published a lengthy article in the company's Newsletter, describing the pros and cons of large-scale developments and concluding that small-scale development would be the most appropriate path for Costa Rica. This newsletter was widely distributed to international tour operators, national and municipal governments in Costa Rica, local and international media, local and international conservation organisations, etc. Horizontes is a key organisation in the campaign against mega projects such as the ICT's Papagayo development project. Currently it engaged in a letter-writing campaign, encouraging all its international operators to send a request to Costa Rica's Minister of Energy and Environment to stop tree cutting in the Osa Peninsula,

* Information gathered by Hernan Quesada Rivel

of consultants are trained to investigate enterprises and to give an advice (including financial consequences) that is tailored to the individual situation of the company.

In Costa Rica, organisations like ICT (through its Sustainable Tourism Certificate: see Appendix 5) and Horizontes are trying to improve environmental management in tourism (see textbox on page 62).

4.5 Zoning

Zoning can be an effective instrument for reducing the impact of tourist behaviour in nature parks. Zoning means different functions are assigned to different parts of the park: tourists, can more intensively use some parts of the park, while they are at the same time kept out of the most sensitive parts. Apart from reducing conflicts between tourism and natural functions, zoning can also be used to avoid conflicts between tourists searching different types of experiences (see also section 3.1).

A first requirement of such an approach is the designation of different functions to different parts of the area. By assigning certain functions to a zone, automatically a certain 'goal-zone' (e.g. a beautiful view), in relation to a 'starting point' (e.g. the entrance), will be located in front or behind another zone, an 'avoidance zone', which needs special attention because of its vulnerability (e.g. an orchid field).

Zoning does not necessarily imply the closing of certain parts of a nature area with fences. Less restrictive measures can also be very effective. Distance for example plays a crucial role. Most tourists stay within a specific range of the entrance or parking place. Entry fees are also very effective. Other examples of steering measures in a designated area are:

- ❖ imagination: the creation of attractive landscapes, which with a certain aura/radiation either encourages or discourages visitation;
- ❖ guiding: the usage of natural instruments in an area, which guides a visitor almost unnoticed in a certain direction;
- ❖ marking: instructing tourists with the help of artificial instruments (e.g. signs, poles, gates);
- ❖ participation: creative and active participation by interest groups in a process of planning, design, development and management of a public area;
- ❖ information: explaining the dynamic relations between elements of an ecological system;

- ❖ concepts: the integration of historical, social, functional, geological, hydrological etc. aspects in a concept;
- ❖ regulation: allowing or prohibiting certain recreational activities at a specific location; and
- ❖ functional zoning: the allocation of functions to parts of an area (terrain, landscape, and region) in such a way that the different functions are optimally located in different or same parts of an area. (Boerwinkel et.al., 1998; RMNO, 1990).

figure 4.4: various ways of zoning and their relation with tourist experience

experience:	large impression of freedom ←.....→ limited feeling of freedom		
instrument:			
physical	imagination / provision	guiding	marking
↕	distance	zoning	entrance fee
social	participation/ information	concepts	regulations

source: Boerwinkel et.al.(1998) (translation)

The spatial planning of a nature and recreation area requires feasible objectives satisfying both functions, for now and in the future. Public support for a zoning model is thus essential. Therefore, a zoning model has to be checked upon the following criteria:

- ❖ in what way is the combination nature/recreation possible and desirable;
- ❖ in what way are the objectives 'accessibility' and 'approachability' assigned to different types of visitors;
- ❖ in what way are the needs and desires of tourists and inhabitants harmonised;
- ❖ what is the relationship between intensive and extensive recreation;
- ❖ what different modes of transport will be offered; and
- ❖ which interest groups/organisations will be involved.

Essential in designing a zoning model is the integration of the different instruments mentioned above, and including the visiting motives of different recreational groups (see section 3.1).

4.6 The distribution of benefits

If tourism is to support the fair and equitable sharing of the benefits of the utilisation of biodiversity, it should be more firmly coupled to the local economy than it is at present. Possibilities are the creation of links between tourism and agriculture or tourism and fishing, and eco-tourism schemes that make use of local labour and materials and encourage the development of local handicrafts and souvenirs (Lindbergh and Hawkins 1993). Programmes will have to be tailored to the needs and daily practice of the local population.

For a fair and equal distribution of benefits at least three problems have to be tackled:

a. *Lack of knowledge, information and communication*

An analysis of small-scale enterprises in Costa Rica depicts the primary weaknesses as: inadequate knowledge of the tourism market, lack of communication with the rest of the tourism sector and affiliates, lack of skills in PR and foreign languages and lack of expertise in operating a travel agency (OIT, 1994b). More or less the same applies to Dutch small-scale entrepreneurs.

b. *Lack of a consistent and supportive tourism policy*

Although the ICT acknowledges the importance of sustainable development and role of the micro-entrepreneurial sector in the development of tourism, to our best knowledge it still has no specific policy directed to this sector of tourism activities (cf. ICT, 1995). According to Hagenaaars (1995), Costa Rican tourism policy is not equivocal. In national and strategic plans sustainable development is presented as a policy goal, but in practice tourism policy emphasises economic growth with the assistance of foreign capital and investment companies. This is related to the dominance of neo-liberal policy. Famous - or infamous - are the examples of the Playa Tambor- and Papagayo-project (discussed previously in section 4.3).

c. *Money*

Starting a business in tourism is quite a task for Costa Ricans. Interest rates can be as high as 40% and travel agencies offering services to individual enterprises lay on similar percentages. Moreover, no specific systems exist for granting of credits to micro-entrepreneurs. Not surprisingly more and more foreigners rather than Costa Ricans start operating tourism business, since

they tend to have easier access to lenders. Credit agreements with both public and private banks as well as the granting of credit by international organisations were put forward as primary requirements in the minutes of a conference where six Central American countries met to discuss the future of micro-entrepreneurs in their countries (see: ACEPESA, 1994: 30),

Problems

In March 1996 a beautiful Albergue de Montana was opened, called Rio Chirripo Pacifico. The owner, Rafael, a former farmer, had invested 30 million Colones, half of which he had to borrow. The interest and pay-off of the loan was 0.5 million Colones a month. He needed almost a 50% occupancy the whole year round to be able to pay this debt. We visited him three weeks after opening and no tourist had visited his albergue so far. He had built his Albergue, but forgot to promote it. Nobody knew it existed. Colleagues who visited the same place only four months later, discovered that he had sold because he had not been able to pay the bank any more.

Source: personal communication

Small-scale entrepreneurs in Costa Rica need social, cultural and economic capital to survive. Another prerequisite is the capability to build and maintain networks composed of social, economic, political as well as technical elements (Verschoor, 1997). The Costa Rican government could play an important facilitating role facilitating the foundation from which heterogeneous development could take place. Basic conditions that should be provided are amongst others (Smith, 1994, de Bruin, 1977):

- ❖ infrastructural resources (roads, waste disposal, telecommunications etc.);
- ❖ forms of formal and non-formal education for small entrepreneurs; and
- ❖ credit facilities and subsidies for innovation.

It would be interesting to see to what extent the creation of 'regional centres of knowledge' could play a role in this. The idea to set up such centres in the Netherlands was put forward by the NRLO (National Council for Agricultural Research) in an advice to the Ministry of Agriculture (NRLO, 1998). Such centres could, for example, provide services to entrepreneurs and pass on knowledge generated at universities and other research centres to local practice. These centres do not necessarily have to take the form of buildings or consist of a large staff; they may (partly) consist of services offered through internet for example. The main task would be to bring together various 'worlds of knowledge': local operational knowledge, national and international development programs, research and development carried out by universities and so on. Proposals for the creation of such centres, as well as the type of services they should offer, are being studied in the Netherlands (NRLO, 1998, Lengkeek, 1999b).

Another way to pay attention to the position of small-scale entrepreneurs would be by stimulating the organisations that are now involved in negotiations at the national level to link their activities more closely to small-scale enterprises. In principle, Dutch tour operators could play a central role in this respect, as could associations like RECRON (Organisation of Entrepreneurs in Recreation and Tourism) in the Netherlands and CANAMET (National Chamber of Tourism Micro Enterprises) and CANATUR (National Tourism Chamber) in Costa Rica (see appendix 5 for a description of their current activities).

The Bilateral Sustainable Development Agreement drawn up between the Netherlands and Costa Rica, can play a special role in relation to the goal of equal sharing (van der Duim 1997). Tourism is one of the spear points of this programme. According to the Sustainable Tourism Programme, from 1999 on, projects should be carried out that will focus on realising the linkage between tourism and the local economy.

4.7 Linking the global and the local

At the national and international level, many initiatives and policies for biodiversity exist. However, tourist entrepreneurs mainly function at the local level, and their first priority is economic rather than ecological. In order to make sure that policies and instruments trickle down, efforts are needed to link these different levels. Actors who can act as a 'bridge' or as 'gatekeepers' can play a crucial role. Such actors function between the two levels and are aware of the developments and needs present 'locally' and 'globally'.

In principle, the different tourism organisations that are formally representing the tourism industry on the international or national levels could be expected to perform this function. However, in practice, they only reach a very small part of the industry. As has been indicated in chapter 3, the tourism industry consists of many types of enterprises, most of which are rather small (also in the Netherlands) and the sector as a whole is not well organised. One of the ways to link global and local interests is by stimulating organisations currently involved in negotiations in the Netherlands on improving this relationship.

In Costa Rica, organisations that may be able to function as a 'bridge' could be organisations such as CANAMET, COOPRENA, but – in principle - also ICT, CANATUR or Horizontes. These are the ones operating at the national scale and at the same time capable of reaching (micro-) entrepreneurs. These organisations could assist entrepreneurs to improve the quality of their outputs and reduce impacts.

Foet's research (1996) - sponsored by the Dutch government within the framework of the BSDA - indicates that it is difficult to make a clear distinction between tourism activities initiated and undertaken by NGO's and activities undertaken and initiated by the micro-entrepreneurial sector. Largely the same problems and threats are encountered, and, more importantly, for a solution to these problems NGOs and micro-entrepreneurs are dependent upon each other. Currently, efforts are undertaken to develop a network and improve the marketing of NGO initiatives in tourism. These actions have been initiated by the Dutch NGO ECEAT (European Centre for Eco-Agro Tourism) together with the Committee for Tourism of the Costa Rican NGO CONAO (Coordinadora Nacional de Organizaciones no Gubernamentales y Organizaciones Sociales).

Regional knowledge centres (see section 4.6) could also play a role in creating linkages. It seems advisable to link different initiatives undertaken so the various actors can learn from the other's activities and experiences.

5 Discussion and recommendations

In this report we have conceptualised the relationship between tourism and biodiversity. Possible interventions to mitigate effects of tourism on biodiversity or to increase (potential) contributions of tourism to biodiversity have been discussed. Examples were derived from experiences in the Netherlands and Costa Rica.

In this final chapter we give special attention to six items for discussion. These are: coping with uncertainty, biodiversity versus diversity of tourist experiences, the potential contribution of tourism to biodiversity, the effectiveness of instruments, equitable sharing of benefits and the need to overcome friction between goals. Some are accompanied by recommendations particularly relevant for the Bilateral Sustainable Development Agreement between the Netherlands and Costa Rica.

Coping with uncertainty

The tourism and biodiversity debate concentrates on the impacts of tourism on biodiversity. Measuring impacts of tourism on biodiversity is highly complex and costly and the so-called dose-effect studies show several weaknesses. Studies aimed to demonstrate the causal relationships between tourism activities and ecological consequences are scarce. Therefore we have to deal with uncertainty arising from a lack of knowledge. As a consequence, judgements about the impact of tourism on biodiversity must be based mainly on expert vision. Such expert vision can be challenged by other experts and involves valuation. Valuation is dependent on the perception of risks and on the interests of the parties involved. Actors may dispute each other's knowledge of the seriousness of impacts, and they will value these impacts in different ways.

Seen in this light, setting priorities for biodiversity is not just a matter of assessing impacts scientifically, but more a matter of communication and negotiation with the parties involved. In such a process, arguments of urgency from an ecological perspective are considered in relation to arguments of legitimacy, feasibility and effectiveness. This sort of approach requires detailed analysis of the entire actor network involved. For each actor, information such as goals, attitude towards tourism and biodiversity, relationship with other actors and instruments (their ability to exert control over resources or other actors) should be gathered.

Biodiversity versus diversity of tourist experiences

Restrictions on tourism behaviour are necessary for the conservation of biodiversity. Such interventions may result in certain types of tourist experience becoming heavily restricted or even impossible. In situations where biodiversity is highly endangered, such measures may be unavoidable. However, we plea that the meaning of biodiversity for different tourists is considered when taking restrictive measures. The meaning of biodiversity for different tourists should be respected as well and physical conditions necessary to obtain these experiences should be provided.

In order to protect biodiversity and provide opportunities for a diversity of tourist experiences at the same time, knowledge of substitutes for those activities harmful to the environment is required. If suitable alternatives are offered, intervention will be easier to legitimise. Availability of alternatives should be coupled to the question of how relevant the activity is in terms of the tourist experience. What is the risk that tourist experiences will be harmed by this intervention? Nature parks, for example, are crucial aspects of a trip for most tourists going to Costa Rica. Therefore, interventions focusing on litter prevention will be easier to legitimise than any action aimed at closing parks. Zoning within parks to protect and preserve the most sensitive areas from excessive visitation is another effective and legitimate approach.

Potential contribution of tourism to conservation of biodiversity

In the debate on tourism and biodiversity greater emphasis should be placed on tourism's potential to contribute to the conservation of biodiversity. Yardsticks currently being developed to measure impacts of tourism tend to focus on the negative impacts. The relevance of such measures for policy purposes would increase if the positive and negative impacts could be weighed. Tourism is influential, especially in terms of quantity of land preserved for nature. This is an important contribution, because world-wide, habitat destruction is the single most important cause of biodiversity loss. Tourism contributes by providing the financial means for conservation and by raising understanding about the issue. For many private and state owned national parks in Costa Rica, tourism is the most important generator of income. Tourism can provide an alternative to agriculture, animal husbandry, coffee and banana plantations, which are primary causes of deforestation in Costa Rica. In the context of the Bilateral Sustainable Development Agreement between the Netherlands and Costa Rica, it would be interesting to gain insight into comparative figures about the (potential) contribution of tourism in public as well as private reserves.

Effectiveness of interventions

Participatory approaches are preferable for sustainable development. Public support is a precondition for such 'two-sided' regulation. Actors must be convinced or persuaded that action is required. This can lead to an impasse, if support is not available. In such a situation, one-sided activities are necessary and will serve as a symbol to indicate the relevance of a particular value. It may be one of the ways to place environmental interests more firmly on everybody's agenda. Moreover, if the ecological urgency of a problem requires immediate action, it may be necessary to make use of instruments of a more compulsory nature, such as economic (taxes, levies etc.) and binding regulatory instruments. Implementation of such instruments presents its own set of difficulties. Especially considering the implementation of spatial law, enforcing and monitoring still causes problems in terms of land use and land conversion (i.e. semi-legal, large-scale tourism developments in fragile areas).

Emphasis has, thus far, been placed on social instruments (such as extension service and education) and on *voluntary* regulatory instruments (based on conventions or mutual agreement). The emphasis on social and voluntary regulatory instruments is understandable: many types of actors are involved and interventions are mostly legitimised by expert judgement, not based on scientific knowledge. In such circumstances, two-sided instruments and stakeholder participation tend to be the most effective approaches. However, this report questions the extent to which such commitments and agreements by interest groups at international forums trickle down to tourism practices at the regional or local level. It is recommended to pay more attention to the relationship between (inter)national agreements and local practice.

Equitable sharing of benefits

Current interventions and instruments predominantly address conservation and sustainable use of biodiversity and to a limited extent aim at creating a more equal sharing of benefits. If tourism is to contribute to the latter goal, it should be more firmly coupled with the local economy than presently. Linkages between international tourism and small-scale local entrepreneurs in Costa Rica are seriously hampered. To improve this situation, the role of actors who can act as a 'bridge' or 'gatekeeper' is crucial. Such actors are aware of developments and needs that are present both 'locally' and 'globally'. This can include NGOs, associations of entrepreneurs or intermediaries between entrepreneurs and tour operators. Also, (international) tour operators concerned about sustainable tourism can play an important role.

Small-scale enterprises are not well organised and difficult to access. Special attention should be paid to how these bridge-actors can facilitate their co-operation and help them gain access to some of the crucial resources. One way to improve this relationship between the 'global' and the 'local' is the creation of 'regional knowledge centres'. Proposals for the creation of such centres are currently being researched in the Netherlands. What types of services such centres should offer and how they should operate are some of the questions to be answered. Extension of these research activities to (for example) Costa Rica would very well fit the purposes of the Bilateral Sustainable Development Agreement.

Overcoming friction between goals

Tourism can contribute to each of the three goals identified in the Convention on Biological Diversity, namely the conservation of biodiversity, a sustainable use of biodiversity, and an equitable sharing of benefits. However, conflicts exist among these goals. This discord is present both on a conceptual level and in the interventions. Hallmarks for the tourism industry, for example, can decrease the impact of tourism on biodiversity. Nevertheless, there is a fair chance that they will not contribute to the equal sharing of benefits, since most small-scale entrepreneurs in Costa Rica are not (yet) able to join these and other 'self-regulation' schemes. An ecotax placed on flying will probably reduce air traffic, yet result in fewer tourists visiting developing countries.

Interventions to overcome this discord are necessary. Such interventions should be able to link the various values and 'realms' involved. These include (at minimum):

- ❖ the realm of biodiversity and nature protection, represented by organisations such as the WWF, IUCN, INBIO, National Park Services etc.;
- ❖ the tourist realm and international tourism industry, represented by WTO, WTTC, TUI and other 'northern' tour operators; and
- ❖ the local tourism industry in Costa Rica, whose interests are currently not very well represented at the national and international levels.

The various organisations are each guided by their own missions and operate according to a different 'logic'. It is not just a difference in goals, but a gap between different paradigms or perceptions of the world that has to be bridged. To link these various realms, knowledge concerning the processes guiding the various organisations at different levels is crucial. The best way to approach this issue is through concrete projects in which actors from each realm are co-operating. These projects should ideally create tangible products that actors involved are willing to sustain at their own cost. The Bilateral Sustainable Development Agreement provides the perfect basis for this type of projects.

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Appendix 1 (see paragraph 2.3)

Conceptual models of the impact of walking and flying on biodiversity including some remarks

Measuring the impact of walking in nature parks on biodiversity: some remarks to figure 1

The mere activity of walking can cause several inflictions on nature, such as trampling and disturbance via noise and silhouette. In addition, littering and pollution of the area frequently occurs. Tourists leave behind batteries, cans, plastic bags or even human faeces. Apart from these effects that stem from the use of national parks by tourists, several impacts related to the construction of facilities can be mentioned: restrooms, food and beverage shops, souvenir shops, visitor centres, walkways and so on. Use of these facilities, in turn, also has specific impacts.

When only considering trampling, the severity of impact depends on many factors. On the 'dose' side, aspects that should be considered are visitor's frequency, length and location of trails, location and number of facilities not reachable by trails requiring off the path walking, availability of routes, guiding posts and tourist behaviour. The relationship between trampling and biodiversity is indicated in the scheme by 'physical contact'. Trampling can lead to trail erosion and damage the physical structure of topsoil. Other effects could be a decline in the mean height of vegetation, decline in vitality of existing vegetation, disappearance of higher plant species, tree root damage and the introduction of micro-organisms and pathogenes. All these effects can ultimately lead to the disappearance of individual species. The seriousness of effects is related, amongst others, to the tolerance and sensitivity level of species, the microclimatological circumstances, the soil physical structure, the gradient in the area and the presence of nutrients. When trying to measure impacts, it is important to distinguish between immediate and long-term impacts. Regarding wildlife, this means that immediate behavioural response to, for example, noise as well as the longer-term susceptibility (as indicated by the size of the breeding population) should be considered.

Measuring impacts of flying on biodiversity: some remarks to figure 2.

Use of energy

The exact amount of energy needed per passenger kilometre depends on several factors. Firstly, it is relevant to know the type of planes used, e.g. the frame type, weight, wing surface and the engine efficiency. Secondly, operational circumstances can differ: the use of energy increases with speed and it decreases with height. International borders, military zones, national policy measures (e.g. on safety and noise) can interfere with these circumstances. Thirdly, the number of passengers per plane should be known. Further complications for measuring energy use include the (notable) differences that can occur between real distance flown and measured distance; fuel loss occurs during production, transport, storage and use of airplanes and throwing out of fuel during emergencies occurs. Data can be hard to attain as not all countries will provide them.

Emission of gases

The above mentioned factors also apply to the emission of gases. At the same time the emission of gases depends on type and composition of fuel, combustion temperature and efficiency, amount of oxygen in the air and engine maintenance.

Noise

The amount of decibels produced by planes depends on the type of engine, the number of engines, the model, the number of flights taken and the speed and altitude. If fixed air-routes were abolished, it would be more difficult to determine the impacts of noise, since the number of planes passing over an area will be unknown.

Some of the factors mentioned are relevant in other respects as well. The damage from gas emissions will depend on the height at which the plane flies, for example. Atmospheric and stratospheric layers show different sensitivity levels for the various types of gases.

figure 1 Conceptual model of the impacts of walking on biodiversity

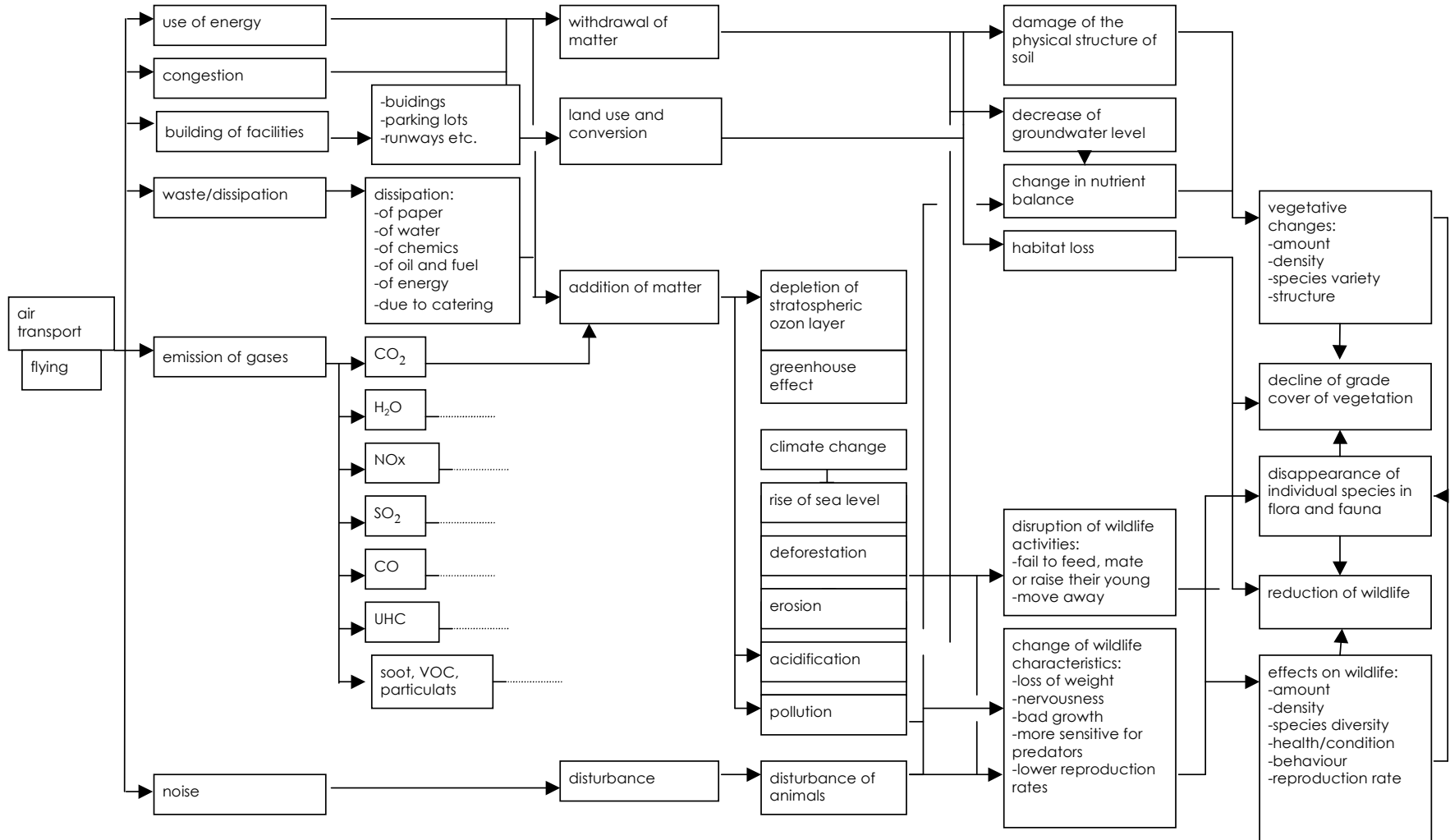
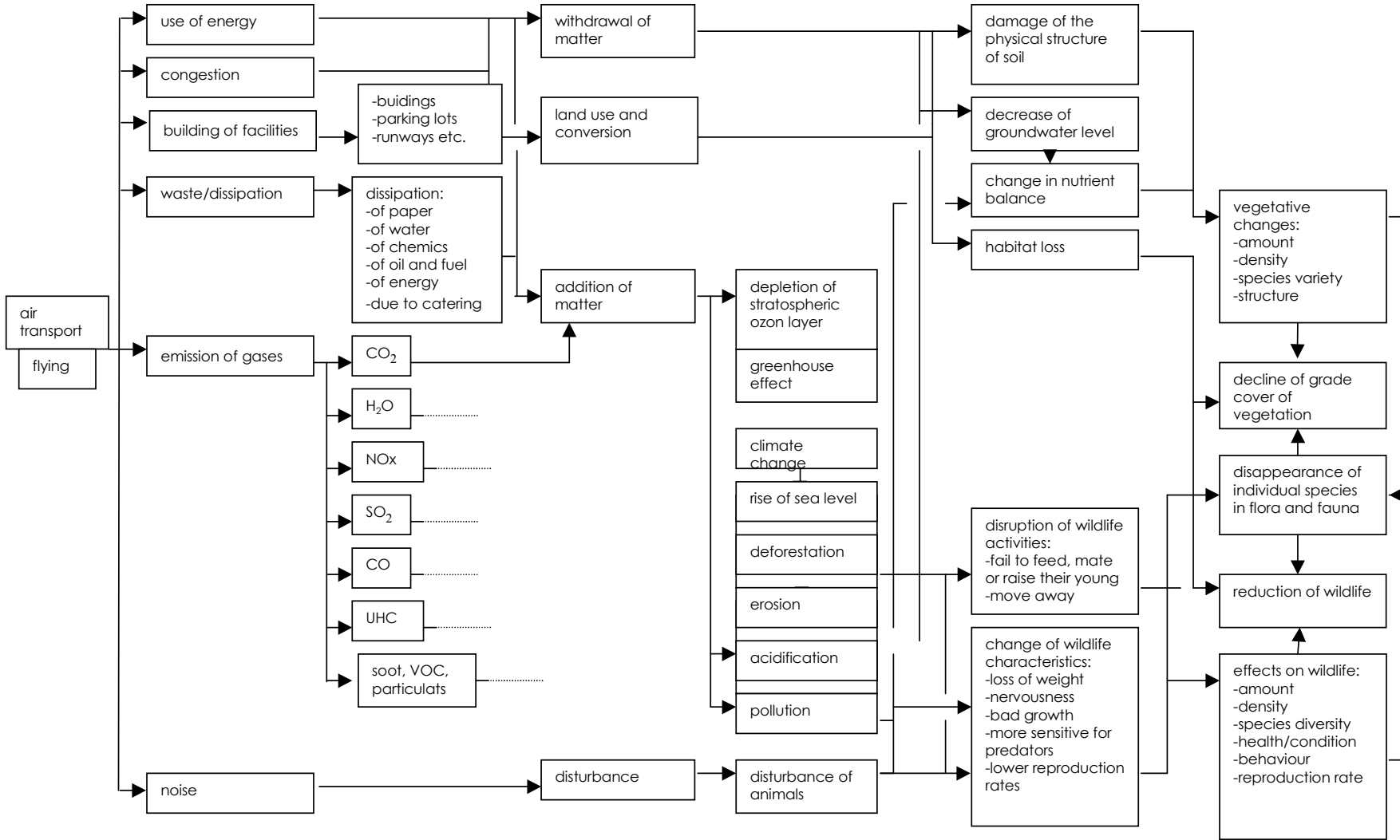


figure 2 Conceptual model of the impacts of flying on biodiversity



Appendix 2: Example of a strategy for intervention on a local scale

Setting the limits of acceptable change

The Limits of Acceptable Change technique was developed in the mid 1980's in the United States, as an alternative to assessing the carrying capacity of wilderness areas. Principles behind LAC are that setting limits is a normative process and limits cannot be determined independently of management objectives. From this point of view, emphasis should be not so much on the definition of an area's carrying capacity, or of Environmental Use Space, but rather on setting the *limits of acceptable change* (LAC).

LAC assumes there are limits to use which should not be exceeded, but rather than these being determined by scientific experts and imposed by managers, the decision is taken collectively by the managers and users, advised by the experts. A discussion takes place between these participants as to what are the key qualities of the area and what characteristics should be preserved. Monitoring, zoning (using the Recreation Opportunity Spectrum System) and participatory decision making are the three key characteristics of this method. LAC typically involves the following steps:

1. Broad review of issues in the area
2. Description of biological and recreational qualities found in the area
3. Identification of possible changes and indicators of change; identifying what changes are acceptable
4. Preparation of a map of the indicators of change throughout the area
5. Specification of quality standards, that can be used for evaluation and monitoring
6. Division of the area into zones, and a prescription of desired conditions in each zone
7. Agreement of management actions to maintain quality in each zone
8. Review of proposals for the area as a whole
9. Implementation of the plan and annual monitoring and review

According to its adherents, strengths of the LAC approach are that:

- ❖ it promotes a rational debate about assessing and managing change;
- ❖ it forces managers to be specific about objectives and standards;
- ❖ it recognises that natural change would have occurred anyway;
- ❖ it directs research and evaluation towards quality management;
- ❖ it improves acceptance and support for conservation and recreation management in contentious situations .

(taken from: Sidaway et.al., 1993).

LAC is designed especially for the management of natural parks. With regard to more diffuse effects of tourism, other types of participative methods apply. In such cases, the parties that are involved in decision-making will be of a different nature. The principles of participation will be similar, however. The most obvious characteristic of this method, within the framework of this study, is that it considers not only ecological qualities of nature, but recreational qualities as well (e.g. possibilities for recreational use of the area, experience values, aesthetic values and so on).

Appendix 3: List of organisations interviewed in Costa Rica

mr. Luis Barrantes	IUCN
mr. Uriel Barrantes	ITCR (commission for sustainable tourism)
mr. Carlos Morera Beita	UNA
mr. Juan Carlos Campos	CANATUR
mrs. Ana Chavarría	CANAMET
mr. Luis Elizondo	ICT
mr. Marvin Fonseca	MINAE
mrs. Karen Aguilar Guevara	INBio
mrs. Andrea Holbrook	Holbrook Travel
mrs. Irene Jara	CCH
mrs. Patricia Mauricio	MINAE
mrs. Karla Mora V.	Horizontes Nature Tours
mr. Roberto Morales	ACOPROT
mr. Jorge Polimeni	MINAE
mr. José Quirós	MINAE
mrs. Marta Víquez	ECAG (Agroecotourism program)

Appendix 4: participants of workshops in the Netherlands

workshop June 9th, 1999:

Ben ten Brink	RIVM
Jasper Groos	Ministry of VROM
Pieter Ketner	Wageningen University
Peter Konijn	Ecooperation
Kees Musters	Leiden University
Jan Philipsen	Wageningen University
Heleen Tsoy	Ministry of LNV
Gerrit Weernekers	Raad voor het landelijk gebied

Workshop September 9th, 1999:

Harro Boekhold	Stichting Recreatie
Patricia Colette	NCDO
Henk Eggink	Ministry of LNV
Jasper Groos	Ministry of VROM
Chris Enthoven	Ecooperation
Kees Kuijken	Ministry of LNV
Frans de Man	Stichting Retour
Marnix Viëtor	ANWB
Mariëlle Winkler	CREM

Appendix 5: examples of interventions at the international, national and regional level¹⁷

In this appendix, we present a number of interventions currently undertaken by actors at international, national and regional/local levels. Examples of interventions by governments, NGO's and the tourism industry are included.

1 International conventions and programs

The 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (the Rio 'Earth Summit') has been a milestone in the development of international environmental policy. With the UNCED, international governments have tried to establish a new and equitable global partnership through the creation of new levels of co-operation among states, key sectors of societies and people working towards international agreement. In the first years after the Rio Conference, tourism did not play a significant part in the discourses on sustainable development and biodiversity. Lately, interest in tourism has however grown. This is reflected by the growth of the number of declarations and commissions that are dedicated to the subject. A review of existing laws on the subject showed that initiatives to give such declarations a more legally binding status (i.e. through laws) are still very scarce (Bundesamt für Naturschutz, 1997).

The following declarations and commissions are of particular importance: the Commission for Sustainable Development (CSD), the Convention on Biological Diversity (CBD), the Berlin Declaration on Biological Diversity and Sustainable Tourism, the Malé Declaration on Sustainable Tourism Development, the Declaration of San José, the Lanzarote Charter for Sustainable Tourism, the World Heritage Convention and the Agenda 21 for the Travel and Tourism Industry. Some other important conventions of indirect importance to the relation between tourism and biodiversity are: the Convention on Migratory Species (Bonn Convention), the Convention to Combat Desertification, the Ramsar Convention on Migratory Species and the Convention concerning the Protection of the World Cultural and Natural Heritage.

Many of these declarations and conventions have been translated into programmes, plans, pilot-projects and codes of conduct, some of which will be portrayed in this section.

The Convention on Biological Diversity CBD

As a follow up from the Rio Earth Summit, three conventions were drawn up: the Convention on Climate Change, the Convention on Biological Diversity and the Declaration on Forests. All three are of importance in the relationship between

¹⁷ Sources are not always included in the text, but are listed in the "references" chapter.

tourism and biodiversity and they are more or less intertwined. Air transport, for example, can contribute to the global climate change, which in turn inflicts forest growth and thereby biodiversity.

The Convention on Biological Diversity (CBD) is a framework convention that needs further refinement. This refinement is co-ordinated by negotiations at the Conferences of Parties (COP's). The Subsidiary Body on Scientific Technical and Technological Advice (SBSTTA) is set up to prepare the COP meetings. Tourism was addressed at the Fourth Meeting of the SBSTTA in June 1999 in Montreal, and it will play an important role in the COP of May 2000 in Nairobi (Kenya).

Global Environment Facility GEF

One of the mechanisms to achieve the goals of the Biodiversity and Climate Change Conventions is the Global Environment Facility (GEF). The GEF was set up in November 1990 by the World Bank, the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) to assist developing countries in funding projects which either protect biodiversity against destructive development or promote development which does not destroy biodiversity. The GEF is an independent international financial entity. In principle projects addressing the relationship between tourism and biodiversity could be financed through GEF. A principle of the GEF is that projects should be implemented and carried out by the countries or parties that are most closely involved. This is to avoid 'patronising' and to assure that the input of funding takes place as efficient and effectively as possible. Therefore, participation of a range of actors is required. In the GEF's experience, community based non-governmental organisations have been among the most effective agents for mobilising and maintaining grassroots commitment.

A special programme exists for NGO projects, called the 'Small Grants Programme' (SGP). This Programme is available for projects put forward by grassroots groups and NGO's in developing countries, and covers relatively small projects (up to US\$50.000 to US\$250.000). Such small-scale investments can bring quick returns and spur community involvement; but as their scale is limited, so is their impact.

In Costa Rica, INBio has received 7 million US dollars for a biodiversity resource development project in Guanacaste. This project includes the development of revenue and non-revenue generating activities and increasing the awareness of the value of biodiversity.

'Debt-for-nature-swaps'

Another programme worth mentioning, is 'debt-for-nature-swaps'. First World Banks are willing to sell debts of developing countries' governments at a discounted rate. (I)NGO's are willing to take over and pay of these debts, in exchange for nature protection. Through this programme, WWF has helped create Guanacaste National Park, now one of the main tourism attractions in northern Costa Rica (Mowforth and Munt, 1998).

DECISIONS OF THE GENERAL ASSEMBLY AND THE COMMISSION ON SUSTAINABLE DEVELOPMENT

Nineteenth Special Session of the General Assembly

Resolution Adopted By The General Assembly for the Programme for the Further Implementation of Agenda 21

Sustainable tourism

Tourism is now one of the world's largest industries and one of its fastest growing economic sectors. The expected growth in the tourism sector and the increasing reliance of many developing countries, including small island developing States, on this sector as a major employer and contributor to local, national, subregional and regional economies highlights the need to pay special attention to the relationship between environmental conservation and protection and sustainable tourism. In this regard, the efforts of developing countries to broaden the traditional concept of tourism to include cultural and eco-tourism merit special consideration as well as the assistance of the international community, including the international financial institutions.

There is a need to consider further the importance of tourism in the context of Agenda 21. Tourism, like other sectors, uses resources, generates wastes and creates environmental, cultural and social costs and benefits in the process. For sustainable patterns of consumption and production in the tourism sector, it is essential to strengthen national policy development and enhance capacity in the areas of physical planning, impact assessment, and the use of economic and regulatory instruments, as well as in the areas of information, education and marketing. A particular concern is the degradation of biodiversity and fragile ecosystems, such as coral reefs, mountains, coastal areas and wetlands.

Policy development and implementation should take place in cooperation with all interested parties, especially the private sector and local and indigenous communities. The Commission should develop an action-oriented international programme of work on sustainable tourism, to be defined in cooperation with the World Tourism Organisation, the United Nations Conference on Trade and Development, the United Nations Environment Programme, the Conference of the Parties to the Convention on Biological Diversity and other relevant bodies.

The sustainable development of tourism is of importance for all countries, in particular for small island developing States. International cooperation is needed to facilitate tourism development in developing countries – including the development and marketing of eco-tourism, bearing in mind the importance of the conservation policies required to secure long-term benefits from development in this sector – in particular in small island developing States, in the context of the Programme of Action for the Sustainable Development of Small Island Developing States.

The Commission on Sustainable Development CSD

The Commission on Sustainable Development (CSD) was created in December 1992 to ensure effective follow-up of the Rio Conference and to monitor and report on the implementation of the Earth Summit agreements at the local, national, regional and international levels. The Commission on Sustainable Development consistently generates a high level of public interest. Over 50 ministers attend the CSD each year and more than one thousand non-governmental organisations are accredited

to participate in the Commission's work. In association with the CSD, the year 2002 has been proclaimed to be the International Year of Ecotourism. In the CSD-meeting of April 1999, tourism was one of the key-issues. The textbox on the previous page contains the final text of the agreements that were reached during this session.

The Berlin Declaration

1. Tourism activities should be environmentally, economically, socially and culturally sustainable. Development and management of tourism activities should be guided by the objectives, principles and commitments laid down in the Convention on Biological Diversity.
2. Tourism activities which directly or indirectly contribute to the conservation of nature and biological diversity and which benefit local communities should be promoted by all stakeholders.
3. To conserve nature and biological diversity as a major resource of tourism activities, all necessary measures should be taken to ensure that the integrity of ecosystems and habitats is always respected. Additional burdens from tourism development should be avoided in areas where nature is already under pressure from tourism activities. Preference should be given to the modernisation and renovation of existing tourism facilities.
4. Measures inspired by the principle of precautionary action should be taken to prevent and minimise damage caused by tourism to biological diversity. Such measures should include monitoring of existing activities and assessment of environmental impacts of proposed new activities, including the monitoring of the negative effects of wildlife viewing.
5. Tourism activities, which use environmentally sound technologies for saving water and energy, prevent pollution, treat waste water, avoid the production of solid waste and encourage recycling should be promoted to the fullest extent. Similarly, tourism activities, which encourage the use of public and non-motorised transport, should be supported wherever possible.
6. All stakeholders including governments, international organisations, the private sector and environmental groups should recognize their common responsibilities to achieve sustainable forms of tourism. Policies and, where appropriate, legislation, environmental economic instruments and incentives should be developed to ensure that tourism activities meet the needs of nature and biological diversity conservation, including mobilising funding from tourism. The private sector should be encouraged to develop and apply guidelines and codes of conduct for sustainable tourism. All stakeholders should co-operate locally, nationally and internationally to achieve a common understanding on the requirements of sustainable tourism. Particular attention should be given to transboundary areas and areas of international importance.
7. Concepts and criteria of sustainable tourism should be developed and incorporated in education and training programs for tourism professionals. The general public should be informed and educated about the benefits of protecting nature and conserving biodiversity through sustainable forms of tourism. Results of research and concepts of sustainable tourism should be increasingly disseminated and implemented.

Source: <http://www.ecosourcenetwork.com/ecotour/research/policy.htm>

Agenda 21

Another important follow-up of the Rio Conference is 'Agenda 21', a programme of action. It requires from the participating countries to make fundamental changes to their current forms of development, from governance through economic planning to resource management. However, although countries are willing to put in effort, they often lack the necessary capacities to implement Agenda 21.

A solution to this problem could be the 'Capacity 21 Programme', an initiative from the United Nations Development Programme. This Capacity 21 Programme helps countries to build up their capacities and make the first major steps towards sustainability. Pilot programmes are being distilled, analysed and critically presented as examples to other countries.

In 1996 three international organisations - the World Travel & Tourism Council, the World Tourism Organisation and the Earth Council, joined together to launch an action plan entitled 'Agenda 21 for the Travel & Tourism Industry' (WTTC, 1996). This document is a sustainable development programme for the tourism sector that is adhering to the Rio principles. The programme contains areas for action with defined objectives and suggested steps to achieve them. The programme will be adapted in such a way that it is suitable for local implementation. Actors involved are: governments, travel and tourism companies, national tourism administrations, representative trade organisations and tourists, again showing the growing partnership between governments, NGO's and the tourism industry.

The 'Berlin Declaration'

Directly related to biodiversity and tourism is the 'Berlin Declaration', which was the result of the International Conference on Biodiversity and Tourism held in Berlin in 1997. The conference was attended by a large number of parties from the field of tourism and of biodiversity. Among those present were ministers (biodiversity and tourism), the European Community, UNEP, the Global Environmental Facility (GEF), the Secretariat of the CBD, WTO and IUCN. Both Costa Rica and the Netherlands participated in this conference. The parties that were present agreed on seven principles that refer to tourism practices (see textbox on page 91).

International initiatives by the tourism industry

The tourism industry has taken initiatives for the development of 'self regulation' schemes. In many cases, the development of such schemes is somehow related to, or partly funded by one of the action programmes or agreements mentioned above. As we have mentioned before, many activities taking place at the international level are joint initiatives of governments, NGO's and (overarching organisations that represent) the tourism industry.

Typical examples of initiatives by the tourism industry are the development of 'codes of conduct' and of programmes aimed at providing services to the tourism industry. Below, we will describe two of such programmes that are executed by the World Travel and Tourism Council (WTTC): Green Globe and ECoNETT. Other international organisations, like the IFTO have also developed policies for sustainable development (e.g. IFTO Certificate and logo for accommodations (ANVR, 1998)).

Codes of Conduct

Codes of conduct are becoming increasingly fashionable in the tourist industry. Their design, promotion, contents, relevance, uptake, effectiveness and monitoring have become important areas for attention. Two general points can be made about codes of conduct: First, codes attempt to influence attitudes and modify behaviour; and secondly, almost all codes are voluntary. Statutory codes, backed by law, are very rare.

Many codes are rather impressive in the range of issues covered and in the depth of discussion and information. There is a danger, however, that the codes will in practice mainly function as marketing strategies, in order to 'green up' the image of the enterprises involved. This is especially true for codes of conduct coupled to a 'green' hallmark, distinguishing between the environmental quality of the companies.

A number of issues should be addressed when dealing with codes of conduct, i.e.: monitoring and evaluation of codes, the conflict between codes as a form of marketing and codes as genuine attempts to improve the practice of tourism, regulation or voluntary self-regulation of the industry and the variability between codes and the need for co-ordination (Mowforth and Munt, 1998).

UNEP published a technical report on 'Environmental Codes of Conducts' in 1995, consisting of an overview of existing codes. The study reveals not only a wide range of examples, but also the inevitability of an overall management strategy integrating all the involved activities: code preparation, implementation, reporting and evaluation. Especially little progress has been made to date in monitoring and evaluation (UNEP, 1995). A report by Mowforth and Mason (1995) concludes that most codes offer no measurable criteria and do not conform to a widely accepted set of standards. Many are devised by tour operators under the pressure of the environmental lobby and in anticipation of potential criticism. They may also serve as an attracting device for tourists who wish to seek some kind of an ethical holiday, allowing them still to travel faraway.

Green Globe

Membership of Green Globe is open to any travel and tourism business, destination or association with an interest in improving its environmental performance, controlling its costs and helping to make the tourism industry more sustainable.

Green Globe tries to help these organisations to turn their interest into action. Green Globe currently has members in over 100 countries including a wide range of different businesses and organisations, such as tour operators, travel agents, airlines, airports, hotels and accommodation providers, car hire companies and tourism boards.

Green Globe has developed a number of Priority Action Areas, as identified in 'Agenda 21 for the Travel & Tourism Industry: Towards Environmentally Sustainable Development', to help organisations focus on achievable environmental improvement projects. Members of Green Globe endeavour to act in one or more of the following subjects:

- ❖ involvement of staff, customers and communities in environmental issues;
- ❖ waste minimisation, re-use and recycling;
- ❖ energy efficiency, conservation and management;
- ❖ waste water management;
- ❖ control of hazardous substances;
- ❖ company transport and the environment;
- ❖ land use planning and management;
- ❖ design for sustainability;
- ❖ partnership for sustainable development;
- ❖ protection of air quality;
- ❖ noise control; and
- ❖ environmentally sensitive purchasing policy.

ECoNETT

In December 1995, the WTTTC and DGXXIII of the European Commission undertook a joint project to develop an information network for tourism and the environment - ECoNETT - the European Community Network for Environmental Travel & Tourism. The ECoNETT goal is to increase overall awareness of sustainable travel and tourism and in turn stimulate changes in management practices, in destinations and corporations to achieve sustainable travel and tourism development.

The key objectives of ECoNETT are:

- ❖ to ensure that all Travel & Tourism enterprises and destinations, regardless of size and type, have access to the information and expertise they need in order to operate in an environmentally sensitive and profitable manner;
- ❖ to provide a mechanism whereby practical information can be shared between all environmental Travel & Tourism-related enterprises and destinations wishing to manage their affairs in a sustainable manner; and
- ❖ to focus initially on the special needs of small islands, coastal zones, historic towns and the hotel sector.

This is being achieved by making information on good practice, codes of conduct, activities of experts and organisations available with the help of a website of ECoNETT. A regular newsletter, available by mail, backs this up. It allows users without Internet access to keep in touch and request a search of the system.

2 Interventions on the national scale

Governments

The Netherlands

The ratification of the CBD by the Netherlands on 12 July 1994, was a formal recognition by the Dutch Government of the opportunities offered by the Convention for closer international co-operation, and for pursuing the integration of biodiversity objectives within national sectoral policies. The government's strategy for addressing the responsibilities placed on The Netherlands by the terms of the Biodiversity Convention is rooted in the implementation of existing policies, and is further elaborated in the Strategic Action Plan for Biodiversity.

The Dutch governmental interventions relevant for the relationship between tourism and biodiversity centre on:

- ❖ National Environmental Plans (NMP's), which have internationally received a lot of attention and have been highly appraised for clarity and orientation;
- ❖ general town and country planning, which also has an important influence on the environment as well as on tourism;
- ❖ specific planning in the domain of, for example: transport, nature, water management, outdoor recreation or tourism; and
- ❖ special activities and interventions on behalf of biodiversity, especially the preparation of the 'Beleidsagenda Biodiversiteit'.

The statutory basis for these policies is provided, among others, by: the Nature Conservation Act, the Spatial Planning Act, the Environmental Act, the Environmental Management Act, and the Water Management Act. Despite all the laws and regulations, and the fact that Dutch environmental policy meets the current international standards, it has not been as successful as planned (Van der Straaten, 1994). Many objectives have not yet been reached.

As a special action within the framework of the Convention, a need was felt to assess the coherence of existing policies. Also, it was regarded desirable to unite the energies of those involved - both within and outside government circles - and to add new elements to existing policy, where appropriate and expedient, is needed. To reach this, several steps have already been taken:

- ❖ a formal analysis of the compatibility of existing policy frameworks with the Convention. This led to the conclusion that in general The Netherlands meets the obligations set out in the Convention, which could then be ratified;
- ❖ a broad exploration of the new opportunities and options arising from the provisions of the Convention and Agenda 21;
- ❖ identification of the main themes and pivotal activities. The main themes for new policy were then translated into innovative and pragmatic actions, arrived at through a broad interdepartmental consultative process which also involved

numerous environmental and nature conservation organisations, research institutes, information and reference centres, and representatives from a number of economic sectors;

- ❖ assembling the results of this process in a 'Strategic Action Plan for Biodiversity'. This was presented to Parliament, which adopted the new policy in 1995.

The Strategic Action Plan is a joint product of the ministries of Agriculture, Nature Management and Fisheries (LNV) Housing, Spatial Planning and the Environment (VROM); Foreign Affairs / Development Co-operation (DGIS); Economic Affairs (EZ); Transport, Public Works and Water Management (V&W); and Education, Culture and Science (OCW). Scientists, nature conservation and environmental organisations, and the business community have also contributed to the development of the Action Plan. The agreed work programme of the Conference of Parties to the Convention formed an important guideline for the Strategic Action Plan.

One of the actions defined in the Strategic Action Plan which has already been completed is the preparation of the 'Programme International Nature Management for 1996-2000'. This programme sets out the ways in which the Netherlands Government will intensify its efforts to conserve biodiversity within a pan-European and global framework. Specific attention is paid to biodiversity outside protected areas, and extra efforts are directed towards conservation and sustainable utilisation of genetic resources in agriculture. Another specific aspect of Dutch policy for biodiversity is to augment the national capacity for generating knowledge, which can be applied to the conservation of global biodiversity.

Broad public support is essential if these policies and plans are to be realised. This also applies to the international dialogue on biodiversity issues. Many organisations, like the Society for the Preservation of Nature in The Netherlands, the WWF and Greenpeace, belong to the 'Netherlands Biodiversity Forum', a critical platform for scrutinising national and international policies. The Forum also supports the 'Netherlands for European Nature' campaign, a joint effort of many private organisations in the fields of nature conservation, the environment, recreation and tourism, and the Ministry of Agriculture, Nature Management and Fisheries (LNV). The Netherlands Government relies on all these partners and groupings to help overcome the numerous obstacles which stand in the way of the effective conservation and sustainable use of biodiversity. Its strategy for achieving these common goals is based on the recognition of individual responsibilities, and an active dialogue between government and the various interest groups in society at large. Apart from these advantages, such 'neo-corporatist' environmental policy making also has some drawbacks. Van der Straaten (194) even considers neo-corporatism one of the main reasons for fact that many policy objectives were not attained. Glasbergen (1998) on the other hand, regards 'network management' as the only possible path for effective environmental policy making (see also the text box on participation of stakeholders in policy making in chapter 3).

Monitoring and evaluation are crucial for keeping track of the progress made. A 'Nature Conservation Planning Office' is being established to supply the information needed to keep track of this. Each year the Dutch Parliament will be informed of the progress being made in achieving the main policy objectives.

A joint initiative by the government, the NGO's and the tourism industry is the 'Policy Agenda Environment, Tourism and Recreation' (Beleidsagenda Milieu, Toerisme en Recreatie). There are numerous actors involved, like associations of tour operators, hotels and small tourism entrepreneurs, five ministries and various NGOs. 'International Tourism' (Dutch tourists going abroad) is one of the themes elaborated upon. The main objectives concerning this theme are diminishing environmental damage caused by transport and decreasing the environmental burden posed on destination areas. The Policy Agenda intends to achieve these objectives by, for example: the stimulation of alternative modes of transport, providing information to tourists in order to try and raise knowledge and awareness, stimulation of environmentally friendly activities in destination areas, stimulation of environmental care by tour operators and travel agencies and international agreements on the dispersal of holiday periods.

Costa Rica

Of those policy initiatives relevant for tourism and biodiversity in Costa Rica, we highlight the following: the programmes of ICT, MINAE, SINADES and the implementation of Agenda 21¹⁸.

The *Costarican Tourism Institute* (ICT) is an autonomous institution of the central government. It is dedicated to the promotion and regulation of tourism in Costa Rica. The most important biodiversity related pro-environment action programs are:

- ❖ **CST (Sustainable Tourism Certificate):** The CST aims to categorise and certify tourism enterprises by indicating the closeness of the business to a sustainability model (from 1 to 5 'sustainability bands'). This will create a new competitive element for the tourism industry. Four aspects considered are:
 1. physical and biological environment;
 2. service infrastructure and policy;
 3. external client; and
 4. social/economic environment.

This system is related to a gradual structure of direct incentives. The more sustainability bands a hotel has, the more benefits it gets from ICT in terms of: differential promotion at the international and national level, training, support for participation in international tourism events and information. A technical team evaluates the hotels and monitors the program. Guides introduce the hotel into a gradual process of evaluation and improvements towards the certification.

¹⁸ The information presented in this part has been gathered by Hernan Quesada Rivel through interviews and research in Costa Rica.

This program is voluntary and, although meant for all tourism operations, it has presently only been implemented in hotels; 87 hotels are currently subscribed.

- ❖ Ecological Blue Flag Program: This program started in 1996 with the objective to organise coastal communities for the administration and vigilance of the sanitary quality of Costa Rican beaches. The program evaluates:
 1. quality of sea water and water for human consumption;
 2. the sanitary quality of the beach in terms of amounts of: garbage, residual waters and industrial waters;
 3. environmental education in terms of campaigns, extension programs and informative signs; and
 4. security and administration.

In 1998 the program evaluated 96 beaches and created the same amount of Blue Flag local committees devoted to the supervision of the program's statements. These committees receive training and work guidance. In addition, 70 beaches of tourism interest have been evaluated and receive constant revision to detect and correct degradation of quality. The Blue Flag programme has also been implemented at the international level.

- ❖ Besides these two projects, ICT has supported the Biodiversity Database (BIODATA) project of INBIO, the construction of information centres in protected areas and training programs for tour guides in isolated zones.

The main objective of the *Ministry of Energy and Environment (MINAE)* is the administration of natural resources of the country, securing their protection, conservation and sustainable use, with an effective participation of the civil society in the process of making decisions. With respect to tourism and biodiversity, especially the establishment of a National System of Conservation Areas (SINAC) is of importance. Apart from that, tourism is part of the environmental impact evaluations carried out by the National Environmental Technical Secretariat (SETENA). Twenty-five tourist projects, out of 621, received a preliminary environmental impact evaluation. In addition, 29 (out of 164) environmental impact studies were put in practice in tourism related enterprises, and 18 were monitored (out of 91).

Co-ordinated by the Ministry of Planning and Economic Policy (MIDEPLAN), the *National System for Sustainable Development (SINADES)* was created as a mechanism for defining public sector actions, strategies, and policies to promote sustainable development. Participation from the different segments of private society is an explicit goal. SINADES' operational structure consists of an Executive Secretariat, Technical Advisory Commissions and Sustainable Development Units. MIDEPLAN is responsible for the Executive Secretariat, which provides advising and support for activities and tasks involving practical operational matters and co-ordination between the different components of the system. In turn, Technical Advisory Commissions support and advise SINADES about the country's most important sustainable development issues. Sustainable Development Units

(UNIDESOs) are working groups on sustainable development operating within public sector institutions; these units serve as co-ordinating agents to assist in the establishment of mechanisms for internalising sustainable development principles in the culture and daily activities of the institution. The Inter American Development Bank (IDB) supports this system.

Tourism is an integral part of sustainable development planning and practice of SINADES. Two specific proposals deserve special attention:

- ❖ Proposal of a Territorial Arrangement Program: this program should include the analysis of the current territorial arrangement and identifies the strategic opportunities for the country's development. The proposal highlights Costa Rica's chance concerning environmental tourism. It suggests an ideal situation in which there is a regional sustainable development. This incorporates the environmental platform concept, which is made up of protected areas, bio-tourism corridors, conservation areas and forestry use. At the moment, the proposal is under revision by MIDEPLAN and the Republic's Congress.
- ❖ International Co-operation for Sustainable Development Strategy: created in February 1999 in order to assure the permanent functioning of SINADES and the financing of actions of national strategic significance, under the terms of sustainable development, through international funding. This strategy departs from the premise that Costa Rica has developed adequate conditions to become a laboratory for experimentation on sustainable development, and therefore, international co-operation on sustainable development should be lead towards pilot projects oriented on the generation of knowledge and experiences adaptable to other developing countries. The strategy recognises environmental tourism as one of the productive sectors that is subject to investment. The goal should be to promote private initiatives that, in turn, promote desirable options of consumption and production.

The foundation of SINADES has been a direct result of the Capacity 21 Programme (see also Agenda 21).

Key elements of the process of capacity building were:

- ❖ *Consensus building* In the early 1990s, the Environmental Commission of the National Liberation political party, a multidisciplinary group including geographers, biologists, agro-engineers, architects, publicists, and lawyers, was interested in promoting sustainable development issues for the next presidential campaign. The Environmental Commission held numerous workshops during the campaign of the future president Figures that involved the public in discussing many issues including atmosphere, land use zoning, solid waste management, and marine and coastal management. This helped build consensus, increased public awareness, and created a participatory atmosphere between the candidate and society at large.

In the months before his entrance into office, President Figures requested the Instituto Nacional de Biodiversidad (INBio) to instruct his future cabinet members on the linkage between economics and environment. Global,

regional, and local visions of biodiversity were examined, as well as the way in which sustainability could be integrated into policy at the national level.

- ❖ *Establishment of links between government and environmental experts* Several Costa Rican presidential administrations with diverse political platforms have had direct contact with the community of national and international environmental experts. The creation of the National Park System in 1969 was the direct result of the shared efforts between the government and environmental experts.
- ❖ *Linkage of environment and economy* In the 1970s and 1980s, conservation and economic development were developing independently of each other. National park efforts were strong, but the policies and actions in other sectors such as agriculture, forestry, livestock and industry were driving the country away from sustainability and favoured deforestation in the rest of the country. During the late 1980s, however, pharmaceutical firms began funding programmes to analyse and preserve plant species that might possess useful (and profitable) medicinal properties. In addition, eco-tourism became a major national industry. Environmental conservation and tourism were sources of income and employment for the population.
- ❖ *Governmental structure for coherent sustainable policies* The existing ministries were grouped under five new areas to facilitate co-ordination among ministries and enable the incorporation of sustainable development concerns. The five areas were: Economics, Social Affairs, Sustainable Development, Transformation of the State, and Recovery of Values. In this way, the multi-sector importance of sustainable development was integrated into the relevant dealings of each ministry. The Sustainable Development area deals with management and use of natural resources, control and prevention of environmental degradation, and the promotion of a change in attitude towards sustainable development through education and community participation. The government developed a plan to co-ordinate governmental actions promoting coherent sustainable development and increase popular participation through non-governmental organisations (NGO's). The Sistema Nacional de Desarrollo Sostenible (SINADES) is intended to guide interaction among governmental institutions, the private sector and non-governmental organisations to promote dialogue and build consensus for sustainable development policies. The SINADES plan called for a new national council of ministries, non-governmental organisations, academic institutions and the private sector. The Consejo Nacional de Desarrollo Sostenible (CONADES) was created to establish joint co-operation between the public and private sectors, and to build national consensus for coherent and compatible sustainable development policies.
- ❖ *Availability of international funds and expertise* Costa Rican has been a country that has received a lot of attention from international experts and subsequent funds, which enabled Costa Rica to develop sustainability policies.

However, obstacles to capacity building still exist. To name a few:

- ❖ resistance of government and staff to change in mentality;
- ❖ distrust between the government and the NGO's;

- ❖ bureaucratic, centralised and inaccessible nature of government;
- ❖ lack of understanding of long-term benefits of sustainable development and long-term costs of present development; and
- ❖ reluctance to address 'brown' (pollution) issues.

However, Costa Rica also had the good fortune to have a number of social conditions and historical experiences preparing it for the new ideas Agenda 21 brings. The high level of awareness of Costa Rica's population concerning environmental issues, the experience of the country of using its natural resources to generate revenue through tourism, and an established democratic system all helped to ensure that sustainability could become an accepted and understood concept. Costa Rica built its Agenda 21 on its 'green' history, but very clearly recognised that sustainability depends upon the simultaneous application of economic, social and environmental principles. The current Agenda 21 programme in Costa Rica deals with the tools and quantifiable methods needed to manage an economy in a sustainable way (green accounts, indicators of sustainability, economic incentives etc.). Capacity building requires real investment in putting long-term decision-making into the hands of those who will implement the decisions. Any programme tackling the technical side of development (such as projects to develop new accounting procedures or to design market-based measures to protect the environment) is likely to fail without investment in building necessary capacities within society. The stimulation of cross-sector dialogue and consultation throughout society are necessary components of such capacity building, and should attract funding in the same way as projects with more conventional and technical outputs.

NGO's

Not only in the international arena, but also on the national level, many NGO's are addressing the tourism - biodiversity relation. In the Netherlands the activities of the NCDO, Milieudefensie (Friends of the Earth Netherlands) and NC-IUCN are worth mentioning. In Costa Rica organisations such as CANAMET, ACEPESA, COOPRENA, IUCN, Earth Council and the Neotropica Foundation are supporting the issue of tourism and biodiversity.

The National Committee for international Co-operation and Sustainable Development (Nationale Commissie voor internationale samenwerking en Duurzame Ontwikkeling: NCDO) tries to reach the goal of sustainability by informing and involving Dutch people in international development and sustainable development, in order to create public support for interventions. The NCDO organises meetings and debates, in which NGO's, government and industry join for discussion.

Ecological Footprints

In 1999, NCDO carries out a pilot project to create a 'holiday impact indicator, using the concept of ecological footprints. Costa Rica is one of the pilot destinations. Social, economic as well as ecological data will be collected through interviews with local governments, entrepreneurs, NGO's and other interest groups. The NCDO intends to present a first draft of this 'holiday impact indicator' at the 'Vakantiebeurs 2000', the biggest holiday fair in the Netherlands, preferably in the format of an interactive computer programme.

source: NCDO and Retour Foundation (personal communication)

It supports and finances projects of organisations that try to raise the awareness of the importance of international co-operation and sustainable development. The NCDO has the 'Local Agenda 21' at its appraisal, to fund projects. The NCDO is momentarily creating a new concept called 'Ecological Footprints', which is designed to give insight in the tourist's own behaviour and to create more behavioural alternatives and perspectives (see box). Costa Rica will be one of the pilot countries.

The Netherlands Committee for IUCN (*NC-IUCN*) aims to promote ecologically sound foreign aid and trade relations of the Netherlands, and a participatory institutional follow-up of UNCED. The Netherlands Committee is a co-operative

IUCN-NL: opinion

Willem Ferwerda (IUCN Netherlands) argues that in tourism development the balance between contributions made to protect natural areas and destruction of the same natural areas should constantly be monitored. This requires a partnership between nature protection and tourism development. A partnership between wetland protection and tourism development is only possible if certain conditions are met. The case of Tortuguero national park can illustrate this.

In the Tortuguero national park, a vast wetland of lagoons and canals on the Caribbean Coast of Costa Rica, the economic benefits of tourism outweighed the benefits of banana plantations and so the area was 'preserved' for conservation and tourism use. Existing national policies could not prevent that a lack of governance led to serious harm from uncontrolled tourism development. This harm was caused by speedboats damaging riverbanks, local entrepreneurs letting short-term profit prevail over environmental care and generally the lack of a relation between economic revenues and protection.

Policies should be implemented in order to limits to uncontrolled tourism development, which demands a monitoring systems as well as an effective control mechanism. Part of revenues from tourism can then be spent on the protection of nature. Involvement of the stakeholders in decision-making and joint community management are mentioned as important factors for the success of the partnership.

source: <http://www.wiw.nl/tourism.htm>

agreement between the Dutch members of IUCN, and the Dutch members of the six international IUCN commissions. Almost all important Dutch nature conservation and environmental organisations are members of the Committee. NC-IUCN administers funds from the Netherlands Department of Development Assistance (NEDA) for a small-grants programme. The most important programme related to tourism and biodiversity, is the so-called Natourdata-project (see chapter 3). In the textbox on the previous page, an example of the philosophy of IUCN-NL is presented.

One of the many NGO's active in Costa Rica is ACEPESA. With regard to tourism, it has created a Specialised Centre for the Quality Improvement and Strengthening of the Micro and Small Tourist Enterprise, which operates throughout Central America. This Centre focuses on capacity building, quality, technical assistance and organisation, facilities which are offered to all tourism-related sectors. ACEPESA founded CANAMET in Costa Rica.

The Co-operative Consortium National Ecotourism Network R.L. (COOPRENA) is an initiative to promote the community agro-ecotourism hostels of Costa Rica. It comprises a total of 8 ecotourism development projects each run by local co-operatives and associations. These co-operatives and associations are dedicated to the economic, social and environmental promotion of remote rural communities. COOPRENA receives support from its members and from the TAIS Foundation for Sustainable Development.

The Earth Council Secretariat has its origins in the Earth Summit agreements established in Rio de Janeiro in 1992. It was settled in San Jose in September 1992 at the invitation of the Costa Rican government. It is led by a body of 18 members among whom are politicians, entrepreneurs, scientists and representatives of NGOs from all over the world. Sixteen eminent world leaders serve as Honorary Members, and an 18 member Earth Council Institute functions as an advisory board. The Earth Council's range of action is global and concerns the design and implementation of policies rather than concrete actions.

It is worth to mention that the centre is an attraction for tourists because of its sustainable architectural design. The complex includes commercial activities, living quarters and office space, including the Earth Council headquarters. In addition, the Earth Centre will have an 'edutainment' (education & entertainment) centre that will show foreign and national visitors the geological, biological and archaeological characteristics of Costa Rica using the most advanced electronic and educational technology. The concept of the Earth Centre, particularly its architectural and environmental characteristics and the edutainment component, serves as a model for Earth Centres in other regions of the world. With the preliminary design well advanced, several countries are closely following progress on the Costa Rican model with a view to building their own Earth Centres.

The construction of the Earth Centre in Costa Rica is being financed through a combination of equity and debt. Equity is being provided by a strategic partnership with the Government of Costa Rica to promote its Conservation Areas and National Parks, particularly through the Earth Centre's edutainment complex. As part of this partnership, the Earth Council is collaborating with and advising the Government of Costa Rica in the commercialisation of four million metric tons of carbon in the form of Carbon Tradable Offsets (CTO) in international markets. The proceeds of the CTOs will be used to consolidate Costa Rica's system of conservation areas and to provide US\$20 million as a contribution from the Government towards the construction costs of the Earth Centre. Some CTOs have already been sold. The remaining US\$15 million required will be obtained through donations and loans. Nine hectares of prime land within Metropolitan San José have already been donated to the Earth Council by public and private organisations and the preliminary concepts for the Earth Centre have been developed. It is expected that 70 to 80% of the Earth Centre will be operational by the year 2000.

Tourism Industry

In the last few years some initiatives were taken in which the tourism industry, NGO's and governmental departments were collaborating in the Netherlands. For example, the Dutch Association of Tour operators and Travel Agents (ANVR) published two policy plans, one in 1995 and one in 1998. In the plans all kind of projects in the field of extension, research and pilot projects were initiated (ANVR, 1998). Some examples are discussed in section 4.4.

CANATUR

The Costa Rican National Tourism Chamber (CANATUR) was founded in 1974 with the objective to promote the tourism industry through the encouragement of national and international tourism. Currently it is composed of a total of 250 member organisations, eight honour associates and 25 regional tourism chambers. CANATUR actively supports pro-biodiversity initiatives by its members, for example Horizontes' campaign for the conservation of the Papagayo Gulf. In July 1999 CANATUR presented the document 'Tourism in the next decades' to the President of the Republic. This document proposes a strategic plan for the development of a sustainable tourism industry in the country. This plan is based on studies of the Latin-American Centre for Competitive and Sustainable Development (CLACDS) of INCAE, and the Harvard Institute for International Development. In the plan, proposals to reform the current governmental policy are brought forward. It proposes, amongst others, to make a National Plan for Tourism Development, creation of a 'Tourist Development Foundation' and of an 'Agency for the Promotion of Tourism', and structural changes to ICT. The document recognises the importance of biodiversity in Costa Rica and the need to equilibrate economical and conservation elements. In order to accomplish environmental sustainability of tourism the following actions are proposed:

- ❖ strengthening of the CST program of ICT;

- ❖ studies of carrying capacity in national parks as part of the National Plan;
- ❖ improvement of infrastructure in national parks;
- ❖ evaluation of the financial health of the national parks; and
- ❖ implementation of an incentives program to motivate the creation of natural reserves and buffer zones by the private sector;

This document is currently under revision by the Republic's Congress.

CANAMET

The National Chamber of Tourist Micro enterprises (CANAMET) is a non-profit private association, founded in 1992, dedicated to the promotion of small-scale tourism businesses. A tourism micro enterprise is defined as: dedicating at least 90% of the time to tourism services, with a sales volume below US\$ 50 000 per year, fixed assets below US\$ 50 000 (excluding infrastructure and land properties) and less than 8 permanent employees, (including the owner). CANAMET operates throughout the country; it comprises of 14 associations (representing 479 micro enterprises), including women's organisations and indigenous groups.

CANAMET developed a Quality brand called Guaria: a service quality measure for hosting, food and beverages. CANAMET advises enterprises on how to reach a minimum quality standard in order to achieve the Guaria certificate. Then, trained inspectors evaluate the advance and determine the achievement level. This evaluation is focused on service to the client in reference to the physical state of infrastructure, price, etc. Guaria does not yet include quality standards on the environmental impact of the enterprise. CANAMET also provides courses ('in situ') through its Technical Assistance Unit. Currently, two courses (out of 16) bare a relation to biodiversity: 'agro ecotourism' and 'waste treatment'.

CANAMET is currently implementing an expertise advisory board to assist entrepreneurs to apply for funding. A specific activity is the review of project proposals in the light of the requirements of the funding bodies. Advice regarding environmental issues id based on prior experience and empirical knowledge.

CCH

A forerunner of the Costa Rica Hotel Association (CCH) was founded by a private group of hotel owners in 1940. The CCH is currently implementing the program 'Save the Planet', which is an initiative of the International Hotel and Restaurants Association. This program has an educational purpose, and it consist of advice on opportunities for energy consumption and waste production in hotels.

3 Interventions at the regional and local scale

It has been stated that tourism should, not only, help to conserve or make sustainable use of biodiversity, but also support the *fair and equitable sharing of the benefits* of the utilisation of biodiversity. This latter aspect is especially prominent on the regional and local scale. It is essential that initiatives on the (inter-)national level be transferred to the regional and local level. Local governments, NGO's and entrepreneurs are crucial target groups.

One of the main obstacles for local participation in the tourist sector of Costa Rica is that foreign investors buy up much land, especially in attractive coastal areas. In Manuel Antonio, Italians own most of the land and in Jacó, one of the most attractive beaches, Canadians are the main owners. Prices have risen enormously because of the foreign investments. Costa Ricans seem to be increasingly excluded from tourism product development. Other obstacles to sustainable local development are: a lack of access to environmentally friendly products and technologies, lack of experience in tourism and lack of positive incentives for local entrepreneurs (Siems, 1997). Projects and programs by NGO's such as ACEPESA, COOPRENA and CANAMET are targeting local product development.

COOPESANJUAN R.L. (one of the projects of Cooprena) is a small agriculture co-operative dedicated to the production of basic grains, tubers, dairy farming, and reforestation. Their basic interest is the adequate management of natural resources, the promotion of community participation and to offer visitors an opportunity to meet farming families concerned about the conservation of the environment.

ASPROADES (The Pro Environment and Sustainable Development Association) of La Fortuna started an ecotourism project based on the natural attractiveness of the area including La Fortuna Waterfall and Arenal Volcano. This initiative is supported by Arenal Conservation Area (ACA), the Foundation for the Development of Arenal Conservation Area (FUNDACA), the Canadian Agency for International Development (ACDI) and WWF Canada.

In the south-east of the country, in Puerto Viejo, the 'Asociacion de alamanca de ecoturismo y conservacion (ATEC) is located. The organisation has an office in Puerto Viejo, which is opened daily for the public. The three employees are members of the local community.

An important instrument on the local and regional level could be the 'Local Agenda 21', which originated from the Agenda 21 Action Programme. During UNCED, it was generally accepted by participating countries, that local governments, together with social organisations, local businesses and individual citizens, play an eminent role in the development of a local sustainable action programme. Local Agenda 21 is a combination of sustainable development and policy renewal. At the same time, mutual relationships between different policy areas are established, as well as responsibilities and opportunities for sustainable

development. Projects are designed for the short and the long term. The joint partnership between the different actors creates a bigger chance for success.

Almonds and Corals lodge

The Almonds and Corals project is a hosting concept developed by a Marco Odio and Aurora Gámez, who built the lodge in 1993 out of their own capital. It is located in the heart of the Gandoca Manzanillo Wildlife Refuge. It has been awarded 'most environmentally friendly lodge/hotel' in 1997 by 'the Green Magazine'.

Strategic preservation of the environment:

Waste disposal In the area where the tent camp is located there is neither a public garbage collection service, nor a landfill. Therefore, a company was founded, with the participation of Almonds and Corals and the local community, to take care of this. Currently the South Caribbean Basic Services Enterprise is recollecting garbage in four adjacent communities and separating recyclable matter. The creation of a landfill has been planned.

Water Treatment: The water treatment system was designed by a sanitation engineer, in order to meet the specific characteristics of the lodge and its environment.

Physical surroundings: In Almonds and Corals the forest landscape has been kept exactly in the same way it was found. A few old and sick (with monilia, a fungus disease) cocoa trees, remains of a former plantation, were cut. A survey of the empty or clear spaces within the forest was done in order to design and locate the tent rooms. All the plant species present around the lodge and in the surrounding forest are native, i.e. were there before the lodge was built. There are no man-made gardens. The use and possession of chemical fertilisers or weed killers is not allowed, without exemption, in the hotel premises, nor is the extraction of plants, shells, or wild animals. Neither clients nor workers are allowed to keep any kind of wild or domestic animals in captivity in the hotel's property. Handicraft made, in part or totally, out of the products and subproducts of the local biodiversity cannot be traded in the hotel's property. Almonds and Corals does not use reflective lights. The natural spaces are not directly illuminated. The elevated corridors connecting all the hotel buildings do not interfere with the fauna transit or the natural waters movement.

Energy saving policies: The showers and toilets are designed to minimise the use of water. No hot water showers are available.. Fluorescent light bulbs reduce electricity use; because these bulbs attracted insects, anti - insects yellow light bulbs are now in use. Employees and clients are instructed to turn off all electrical devices, as fans in the tents, when not in use. With the same purpose, kitchen staff is instructed to keep refrigerators closed as much as possible. The room's design maximises natural illumination, ventilation and temperature dispersion. A monthly check of water and electricity lines is performed.

Policies for product use A strict policy exists to reduce the amount of waste, by maximising recycling and reuse, using only what is strictly necessary and increase the use efficiency. In addition, to use of local products is promoted.

Future development: Almonds and Corals is planning to construct a building to host the first Documentation Centre of the South Caribbean Zone of Costa Rica. It will have an audiovisuals and library centre with information concerning inland and coastal local nature. The Centre will be open for hotel clients.

source: Almonds and Corals, 1999 / Jasper Groos (personal communication)

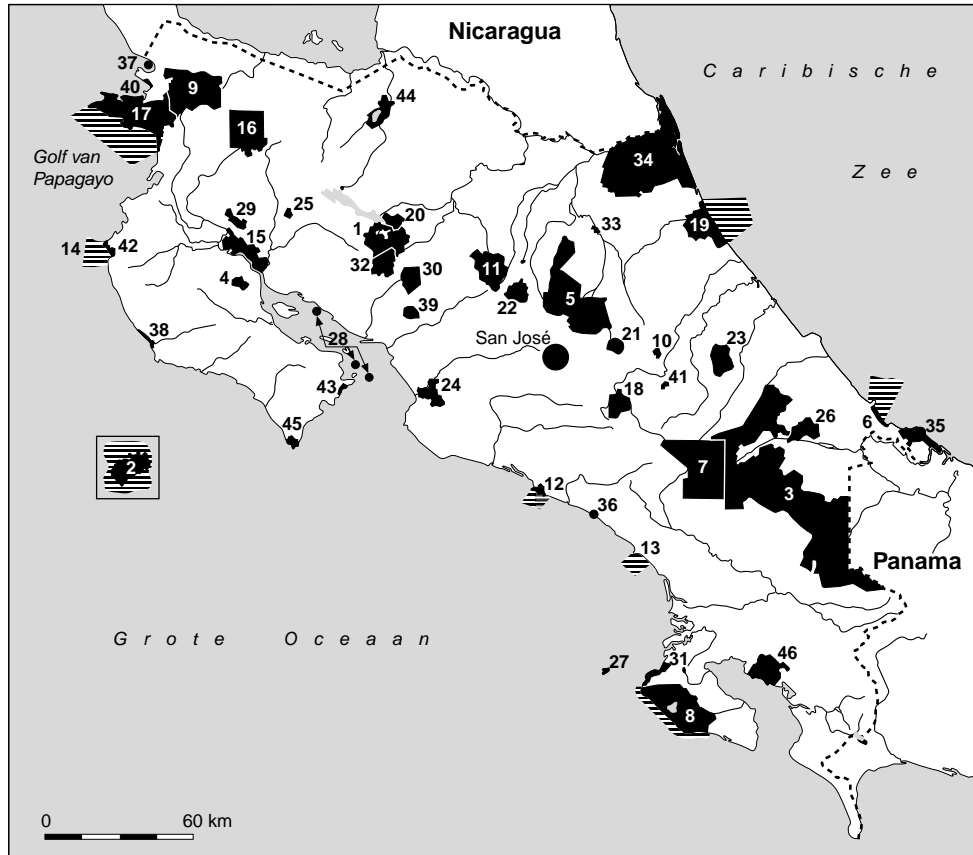
In the Netherlands, NCDO designed a 'Local Sustainability Mirror', which could help communities to set up their own 'Local Agenda 21' programme. No blueprint of the 'Local Agenda 21' exists, yet from the experiences of those involved, five general steps were indicated:

1. collecting important information: what activities relevant for sustainability have already been initiated in the community?
2. making a first selection and analysis of relevant and urgent problems;
3. approaching actors relevant to reach sustainability goals;
4. acquiring knowledge of existing policies and of how to lobby; and
5. requiring expert knowledge with the help of the 'Fund Local Agenda 21'

The Local Agenda 21 and the Local Sustainability Mirror are good devices to achieve local involvement, a prerequisite for sustainable development. When local people are involved in the development process and bring their knowledge into the discussion, chances for long-term agreements between various actors are higher and public support for sustainable development will increase. The creativity of all actors involved can lead to practical though essential solutions.

In Costa Rica, the Osa Conservation Area is the only government project dealing directly with the commitments of the Rio Summit through the implementation of an Agenda 21. The Osa Conservation Area is one of the least developed areas in the country and also one of the most biologically diverse. The Canadian Government and the Central American Commission of Environment and Development finance the implementation of the programme. The main achievement so far is the creation of the Inter-institutional Commission of High Level for the Osa Peninsula. It is constituted of the Second Vice-presidency of the Republic, six Ministries and seven Autonomous Institutions. The Commission's first report (May 1999) is a diagnosis of the region's problems and it serves as the basis for an Integral Development Plan of the Osa Peninsula. The diagnosis demonstrated that there is not a single government institution attending the tourism problems in the region. Meanwhile, tourism is not included as a theme in the Integral Development Plan.

Appendix 6 Map of Costa Rica



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| 1 = Zona Protectora Arenal Monteverde | 24 = Reserva Biológica Carara |
| 2 = Parque Nacional Isla del Coco | 25 = Reserva Biológica Hacienda la Pacifica |
| 3 = Parque Internacional La Amistad | 26 = Reserva Biológica Hitoy-Cerere |
| 4 = Parque Nacional Barra Honda | 27 = Reserva Biológica Isla del Caño |
| 5 = Parque Nacional Braulio Carrillo | 28 = Reserva Biológica Islas Guayabo-Negritos y Pájaros |
| 6 = Parque Nacional Cahuita | 29 = Reserva Biológica Lomas de Barbudal |
| 7 = Parque Nacional Chirripó | 30 = Reserva Biológica Manuel Alberto Brenes |
| 8 = Parque Nacional Corcovado | 31 = Reserva Biológica Marengo |
| 9 = Parque Nacional Guanacaste | 32 = Reserva Biológica Monteverde |
| 10 = Monumento Nacional Arqueológico Guayabo | 33 = Reserva Biológica Rara Avis |
| 11 = Parque Nacional Juan Castro Blanco | 34 = Refugio Nacional de Vida Silvestre Barra del Colorado |
| 12 = Parque Nacional Manuel Antonio | 35 = Refugio Nacional de Vida Silvestre Gandoca-Manzanillo |
| 13 = Parque Nacional Marino Ballena | 36 = Reserva Natural Hacienda Barú |
| 14 = Parque Nacional Las Baulas | 37 = Reserva Natural Isla Bolanos |
| 15 = Parque Nacional Palo Verde | 38 = Refugio Nacional de Vida Silvestre Ostional |
| 16 = Parque Nacional Rincón de la Vieja | 39 = Reserva Natural Penas Blancas |
| 17 = Parque Nacional Santa Rosa | 40 = Refugio Nacional de Vida Silvestre Junquillal |
| 18 = Parque Nacional Tapanti | 41 = Refugio Nacional de Vida Silvestre La Marta |
| 19 = Parque Nacional Tortuguero | 42 = Refugio Nacional de Vida Silvestre Tamarindo |
| 20 = Parque Nacional Volcán Arenal | 43 = Refugio Nacional de Vida Silvestre Curú |
| 21 = Parque Nacional Volcán Irazú | 44 = Refugio Nacional de Vida Silvestre Caño Negro |
| 22 = Parque Nacional Volcán Poás | 45 = Reserva Natural Absoluta Cabo Blanco |
| 23 = Reserva Biológica Barbilla | 46 = Refugio Nacional de Vida Silvestre Golfito |